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ON HABITUAL CONSTIPATION.

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PART II.

A priori nothing would seem more simple than the treatment of constipation. A mere tyro in the healing art can, whenever the occasion demands, select and administer some one of the familiar cathartics in sufficient quantity for the stimulation of the sluggish bowel. The proceeding appears to so entirely meet the requirements of the moment, and is, withal, so readily accomplished, that the majority deem it unnecessary to seek professional advice for the relief of that which seems so trivial a matter; hence self-prescribed catharsis is everywhere customary, the physician being consulted only when the ordinary means have failed to produce the desired effect, and when this occurs, the anomaly has, as a rule, assumed an exceedingly intractable form, and will test professional skill to the utmost. To deal intelligently with these cases, it is absolutely necessary for us to enter into a most thorough investigation of all the details of each individual case, as regards temperament, personal habits and constitutional peculiarities, since a full and intelligent analysis of these can alone guide us to a successful issue. Unfortunately, the investigation usually accorded these cases by the physician is superficial, and they are disposed of summarily with methods that inevitably add to the obstinacy of the malady. If any one doubts the justness of this representation, let him visit any of the principal dispensaries and observe the inauguration of ordinary therapy employed. Let him also study that which is prescribed for patients in a higher social scale, and he will learn that almost invariably the one class is treated with crude laxatives, the other with aperients more delicately prepared in the form of granules or effervescing draughts, but the immediate object to be obtained in either case is the same, the final consequences alike injurious, and the predominating spirit equally reprehensible. So far as the ultimate misfortune is concerned, it is of slight consequence whether the cathartic be a fulsome portion of jalap, or a savory electuary—a dose of salts or castor oil, or an effervescing draught of aperient water, or deftly-coated granules. On every hand and in every department

we encounter this error, and we soon learn that the eradication of a universal custom in vogue for ages, and that has been sanctioned by the highest authorities, is an almost hopeless task. Furthermore, nothing is more distasteful to the ordinary mind than doctrines drawing upon the reason, or encroaching upon time-honored beliefs. Advance to the masses some vague theory calling the imagination into full play, and let it be never so absurd, providing it savors of the inscrutable, it will be eagerly accepted.

In dealing with the matter under consideration, we will find a striking illustration of this subjective phenomenon. Explain the laws of physiology in the simplest and most comprehensive manner, illustrate your argument by practical as well as philosophical data, and the majority will listen complacently, and will, in all probability, in the near future, ask you for an "opening pill," a "cooling purge," or some "anti-bilious" compound. Should they be considerate of your sensibilities they may give way sufficiently to pursue their previous course surreptitiously, obtaining their fresh drugs from some other source. Many a physician who realizes the baleful effects of cathartics, yields his better judgment to the importunities of some irritable patient, who will be content with nothing but an immediate demonstration of the efficacy of drugs; therefore, to obtain the confidence of his patient, the physician violates his conscience, and, for the time being, descends to the level of an illiterate pill vender.

We will find that more than ordinary tact is required to cope with this prejudice in favor of established customs, which constitutes a prime obstacle in the way of our success. Unless we can obtain the full and intelligent coöperation of the patient in this respect the outlook is unfavorable. For the attainment of this object we must employ such explanatory arguments as are applicable, clothed in clear and unmistakable language. In ascertaining the history of the complaint we will often be informed that it is inherited, but we will do well to discriminate between a transmitted constitutional anomaly and a vicious custom that originates the defect. We fully recognize the fact that intestinal tonicity varies greatly in different constitutions, some being predisposed to laxity on slight provocation, and *per contra*, but we believe that costiveness as a disease *per se* is rarely inherited; while, on the other hand,

the *habits* which give rise to the anomaly are very commonly bequeathed from one generation to another, until finally the disturbance artificially originated may merge into an organic transmittible dyscrasy.

Again, we should not restrict our investigation to the tracing of the general outlines, such as the history of the case, methods resorted to for its relief, effects of different agents employed, nature of diet, digestion, personal habits, amount and kind of physical exercise, occupation, etc. All these are cardinal features, and must be carefully noted in our management, but they are hardly more essential contingencies than others, seemingly more remote; therefore we pass further on and study the constitutional dyscrasia, when possibly we may find that the abnormality is engrafted upon a strumous diathesis; as, for instance, a previous skin eruption may have been transferred to the internal surfaces, thereby perverting the function of the mucous follicles. The idea generally obtains that intestinal catarrhs invariably tend to diarrhoea, but the opposite is often the fact.

Furthermore, there may exist some neurotic affection in the background, as a spinal lesion may first be manifested by intestinal inertia. The hysterical and emotional elements are worthy of especial consideration, since they not unfrequently promote the worst forms of the disease. Indeed, it is impossible to present all the various phases which must be included in our discrimination, for the more obscure psychical conditions peculiar to individual cases should receive equal attention with the salient physical and mental phenomena. Manner, speech, tone of voice, facial expression, are all suggestive, and their subtle changes and delicate shading frequently reveal an indispensable indication often tending to modify the views obtained from the more manifest pathological expressions.

DISCONTINUANCE OF HABITUAL DRUGGING.

Having outlined the ordinary diagnostic features, let us revert to the discussion of the details of our therapy. In the first place, we will usually find in these patients various habits which it will be necessary to correct. Let us suppose that the patient has, from long usage, become dependent upon artificial agents for the stimulation of the intestinal peristalsis. Shall their use be abolished abruptly and unqualifiedly, or shall they be *gradually* discontinued? Certainly the latter course would casually seem the more feasible, but actual experience proves that it is not the successful one, and when we reflect for a moment we must concede that a gradual weaning from the use of purgatives is not a rational method, since through the secondary effect of the irritant an occasional dose or enema cancels the advantage that may have been obtained from a period of abstinence. A

decrease of the size of the dose will not only fail to accomplish the purpose for which it is given, but will invariably increase the pre-existing difficulty.

Patients should be made to fully comprehend this matter if possible, that they may intelligently submit to the *absolute banishment of every form of laxative drug and rectal enema*. Of course, we concede that there are circumstances where a purge or rectal enema is indispensable, as for instance, when physical exercise is inadmissible through accident or surgical procedures, or where through neglect the bowel has become impacted and paralyzed with a large accumulation of hardened faeces. For reasons previously explained, patients should be instructed to abstain as much as possible from expulsive efforts during defecation. By persistently refraining from these, they will find that the normal extruding power (the peristalsis) will gradually develop, and become altogether sufficient. This suggestion (as heretofore illustrated) is especially important when dealing with costiveness in women.

The above views are advanced advisedly, after careful deliberation, and based upon extensive observation; but at the same time we are conscious that they will encounter opposition from the generality of patients, and many physicians. Nevertheless we are confident that this oppugnancy will diminish after careful reflection, and disappear entirely upon faithful practical application.

The situation now suggests the question—what expedients shall be substituted for these discarded agents, in order that the normal evacuation of the bowels may be accomplished? There are various means which we will have to call into requisition more or less simple, familiar and effectual, but very imperfectly appreciated by the masses. Should constitutional indications be manifest, it is presupposed that the appropriate internal remedy is administered; these we will discuss later.

PHYSICAL EXERTION AS A REMEDIAL AGENT.

Those who have read the previous pages will, doubtless, anticipate that which we have to say regarding the merits of exercise. All that has been advanced concerning inactivity as a prominent cause of costiveness, might be reiterated and still farther elaborated. The value of exercise as a remedial means for constipation cannot be overrated, and the vital relation it sustains to the physical economy is recognized by comparatively few; it is intimately associated with respiration, and scarcely less indispensable. Let us notice more definitely the relation exercise bears to the accomplishment of our purpose. First it dislodges effete cellular product, promotes the function of all the absorbents, quickens the circulation, and secures the elimination of tissue debris. It deepens

and increases respiration proportionately, so that a man walking six miles an hour imbibes eight times as much oxygen as when inactive. Now, physiology proves that there is no more efficient chologogue and laxative than oxygen. The inhalation of oxygen artificially obtained will often secure an elimination of bile and induce catharsis, where "blue pills" and other chologogues have failed. Beside the elimination of noxious elements and greater appropriation of oxygen, secured through physical exertion, there ensue direct mechanical results. The increased rise and fall of the diaphragm produces a corresponding motion of all the abdominal organs, and the alternate contraction and relaxation of the abdominal muscles likewise promote the function of the subjacent organs. It would be indeed exceptional to find an oarsman, a wood-chopper, an active farmer, or a pedestrian troubled with inertia of the intestine, unless induced by recent or habitual purgation. The writer cannot recall a single instance where actual constipation has existed in men following these or similar active pursuits. Let it not be supposed that an airing in a cushioned carriage, or a loitering stroll, represents our conception of exercise. To be effectual it should be performed judiciously and energetically, begun discreetly, practised daily, and increased as strength develops. The action should be brisk to deepen the respiration and quicken circulation, but should not be continued to actual fatigue. Occasionally patients will overexert themselves, and experience unfavorable effects, thereby not only incapacitating themselves from farther effort, but acquiring a decided distaste for future attempts. It is most surprising to witness the prevailing disinclination to out-door exercise everywhere evinced by those unaccustomed to it. Some are by nature indolent, but the chief source of this manifest unwillingness is the enfeeblement consequent upon the disuse of the muscles. Hence it occurs that no sooner is exercise advised than these patients advance a thousand pretexts to show the impossibility of its fulfillment. Lack of time, strength, means, circumstances, are but a few of those that will be presented. The seamstress, tailor, bookkeeper and school teacher live as near their places of business as possible. The merchant, lawyer and banker, ride to their offices, the busy housekeeper finds no leisure moments from her duties, while the wealthy and indolent limit their sphere of action to the drawing-room and easy carriage. The natural result of all this is, atrophy of the muscular system, and a corresponding inability and aversion to physical efforts.

It is a fortunate coincident that with the development of physical power, there is a corresponding increase in the desire for activity. This is a beneficent law, and should be more fully respected. Could

humanity be everywhere made to appreciate the advantages and actual pleasure accruing from well-regulated bodily activity, it would be eagerly prosecuted. The fact will suggest itself, that there are many instances where, through disease or other misfortune, the individual is incapacitated, and so debarred from the benefits to be derived from exercise. When this occurs, artificial or passive motion in the form of massage should be substituted. Not only should the abdomen be intelligently kneaded, but the tissues of the entire body should likewise be manipulated in a practical manner, always beginning at the distal extremities. The patient should also be instructed to practice deep or abdominal respiration for the double purpose of oxygenation and motory stimulation of the intestinal peristalsis. There are cases, of course, where these measures are not feasible, and much must be left to individual discretion. The Faradic current, applied along the course of the colon, will often prove a valuable auxiliary in arousing the sluggish peristalsis.

COLD ABLUTIONS.

The application of cold packs or baths to the abdomen is also a remarkably effective agent in the treatment of constipation. In lean persons the vermicular movements of the bowel, excited by the laying of the cold hand upon the abdomen, can often be perceptibly felt. The reflex stimulation of involuntary muscular tissues consequent upon the application of cold to the peripheral nerves is a familiar circumstance, of which the acoucheur frequently takes advantage, but it is not generally recognized that the intestinal coats are affected to a still greater degree of contractility by similar means. In accordance with this fact, we recommend cold sponge and shower baths in all cases of intestinal torpidity. Where the vital forces are depreciated, it is necessary that these cold ablutions be performed in a warm room, and energetically, to insure a healthful reaction, otherwise unfavorable depression is apt to ensue. An ordinary hot bath tub and a large porous sponge are often preferable to the usual bath room appurtenances, and two or three minutes spent in the application is quite sufficient, and should be followed by a brisk shampooing until a general glow pervades the system. The warm or tepid bath cannot be too strongly condemned, as it is devitalizing, relaxes the cutaneous textures, renders the body liable to colds with consequent catarrhal affections, creates lassitude, depression of spirits and general atony, while the cold bath produces exactly the opposite effect. It is exhilarating, imparts tone to the skin and mucous membranes, relieves wakefulness, and elevates the physical standard. It is essential that the lower extremities be included in the cold

lavement, as this equalizes the circulation, effectually relieves habitually cold feet, and is a sovereign remedy for cerebral hyperæmia. Those who intelligently comprehend the function of the skin will recognize the direct effect which frequent cold bathing exerts upon the mental and corporeal well-being. It will be remembered that the excretory process of the skin is second in importance to none, and, to a certain degree, it is also a respiratory organ exhaling carbonic acid and absorbing oxygen. Should the cutaneous glands be completely sealed up by any outward application, cutaneous asphyxia and death ensue.

When we reflect that the skin ordinarily exhales daily from three to four pints of aqueous excreta containing fat, albumen, urea, and inorganic salts, and that this extraneous matter mixes with the effete epidermic cells and dries upon the surface, it is readily understood that were this oily albuminous excretion permitted to accumulate it might form no trifling obstruction to the healthful action of the skin. Beside the tonic effect exerted upon the general secretory organs, especially those of digestion, cold ablutions of the surface act remarkably beneficially upon the mental and will powers. From the adoption of this practice the writer has frequently seen languor, lassitude and despondency disappear, to be superseded by a more sprightly, energetic and attentive spirit, while previous seeming impossibilities resolved themselves into simple actualities. This strengthening of the will-power by the daily cold bath leads us to the consideration of a very essential feature of our subject, viz., *the value of concentration of mind, or will-power, as a remedial agent in the removal of intestinal inertia.* We have previously referred to the command which the will exerts over the function of the intestinal tract, especially the rectal portion. While the mind is authoritative in suppressing the promptings of nature, it also possesses remarkable capability of awakening the peristalsis to expulsion. Fifteen years ago the writer was greatly impressed by the views advanced in Carpenter's Physiology regarding mental domination over the intestinal function. In the earlier editions of this work it is maintained that few cases of constipation will resist a half hour's determined fixing of the mind upon the accomplishment of the act of defecation. Since then, observation has many times demonstrated the truth of this principle; but often there are found cases of deficiency in the will power, with confusion and instability of the mental faculties. Intimately blended with the strong desire to accomplish the act will be an over-anxiety, or over-ruling disbelief in all methods save active material agents. Coupled with this distrust there is usually an unfortunate trepidation or apprehension of dire calamity if the bowels should remain

unmoved beyond the accustomed period. This over-anxiety is manifested in nervous, timorous subjects, and is peculiarly trying to encounter, since it not only subverts the healthful action of the will, but opposes physiological processes by the perversion of the vital forces, sometimes causing unnatural spasm of the sphincters. To secure mental composure and efficiency of will-power, the most valuable agents are cold bathing, shampooing, and physical exercise. Let it be remembered that it is sometimes as necessary to divert the attention of excitable, apprehensive patients from an over-estimate of the importance of a daily evacuation, as it is to persuade others to give proper heed to it. It is a very difficult and delicate matter to maintain a favorable demeanor toward our sensitive and watchful patients, since incalculable mischief may be wrought by too strenuous admonition, or even a serious expression of countenance.

HABIT-FORMATION.

An intelligent comprehension, and practical application, of the advantages obtainable through the formation of habit, should always be insisted upon, as comparatively few realize to what extent we are all its subjects. An infant can be accustomed to three nursings in the twenty-four hours, and will thrive, or it will as readily acquire the desire for food every two hours. Adults who eat but two regular meals a day experience no craving for food during the intervening hours; while on the other hand three meals may be taken, and a fourth added at midnight, and after a few days none of these meals can be dispensed with without unpleasant feelings being experienced for a time. We have frequent illustration of the power of habit, in persons who have accustomed themselves to a lunch upon retiring, and when it is prohibited the sensation of hunger will banish sleep. This power possessed by regularly recurring custom pervades every condition of our existence, whether it be of diet, sleep, thought or speech, action or inaction. It is also a matter of individual creation, and although when once established is arbitrary in its domination; still it can be either suppressed or strengthened through the higher power of the will, for there is not a gland or ultimate cell structure that cannot be modified and directed by the mental powers. The writer has observed several remarkable illustrations of the controlling influence of the will in individuals who could not only suspend respiration but also the action of the heart.

We perceive, therefore, that in the uprooting of wrong physical customs, and the establishing of those more desirable, the will is the ruling and indispensable factor. When once a habit is formed it is persistent unless wilfully suppressed.

To make a practical application of these principles to the cure of costiveness, let the patient designate some hour most suitable in which the attention shall be devoted to the accomplishment of defecation. The effort should be made promptly at the appointed time, even if no natural promptings for a discharge are felt. The trial should be made confidently and deliberately, and with the least possible expulsive effort. The first few attempts may not be successful, but eventually the determinate will-power will prevail over the tissues, and this once accomplished, the habit is easily formed which will become arbitrary in proportion to its duration. It is hardly necessary to add that the most appropriate time to select is the morning, directly after the first meal. The mind is then most tranquil, and the nerve forces have not as yet been monopolized by the absorbing cares of the day. Moreover, it is the time best calculated for the application of other accessories, such as cold sponging, shampooing, kneading of the bowels, and other physical exercise.

SOLVENTS.

For the easy expulsion of the faeces, a certain solubility is the first requisite. If a particle of dust or other irritant comes in contact with the conjunctiva, we have a flood of tears; snuff and other excitants drawn into the nostrils stimulate the functional activity of the Schneiderian membrane: in both cases nature by defluxion endeavors to wash away the offending irritant, and either of these instances illustrates that which actually occurs when a portion of an irritating drug is taken to secure liquefaction of the faeces. The medicinal substance coming in contact with the intestinal mucosa and nerve filaments, induces a more rapid secretion of the intestinal juices, that the offending matter may be speedily expelled. These medicaments are popularly designated "mild" or "brisk" cathartics, "laxatives" and "anti-bilious potions," "liver invigorators," "intestinal stimulants," and a host of familiar appellations. As a rule the activity of the catharsis induced is in proportion to the irritative or obnoxious properties of the cathartic administered. Purgation is invariably a protest of the system against the presence of some offending substance. The misfortunes ultimately accruing from the indiscriminate employment of purgatives have already been referred to. When an increase of the solubility of the faeces is demanded, we know of no more healthfully efficient solvent than absolutely pure water, taken freely at proper intervals. A little observation will show that the quantity of water drank by persons of costive habits is comparatively limited, these patients usually preferring tea, chocolate, coffee, etc. Every known law demonstrates conclusively that water is the natural drink of all

living creatures. We are accustomed to its external use as a cleansing medium, but it is no less purifying when taken internally; indeed it is in every sense of the word a detergent. Entering into the blood vessels, it traverses the most remote recesses of the structure, dissolves the morbid debris, and returns with these impurities to the excretory channels. An erroneous idea seems to prevail that water, to be medicinally desirable as well as palatable, should be impregnated with certain organic and inorganic matter.

We are frequently compelled to listen to oft-rehearsed glowing accounts of remarkable effects secured by a visit to some popular sanitary spring, and it is a ludicrous feature that the benefits derived are always accredited to the peculiar impurities with which the water is impregnated. Since the earliest time patients have performed pilgrimages, often compassing a distance of thousands of miles, to some spot noted for the virtue of its medicinal waters. When their destination is reached the former mode of life is discarded, new scenes and healthful habits are substituted, more judicious dietary methods are adopted, and a liberal allowance of water is intelligently prescribed and faithfully taken. The results are often most satisfactory, but the physiologist knows perfectly well that it is not the amount of carbonic acid, alum, iron, or other foreign ingredient, that has produced the agreeable change, but the numerous other accessories which have abolished former faulty influences and established others more favorable. Statistics show that those sanitary springs supplying water the freest from all foreign matter, yield a greater percentage of "cures" than those impregnated with the various salts and minerals. It would, however, be a difficult task to convince the masses of this fact, since they are always most favorably impressed by the water that most strongly appeals to the five senses, and it is undeniable that to most minds a strong odor, a pungent taste, a high temperature, or an effervescence, endows the fountain with special virtue. It is a reasonable inference that spring waters abounding in minerals are beneficial when properly employed, but the intrinsic virtues of even these are always greatly overrated. For our present purpose the nearer the water approaches absolute purity the more desirable it is. When impregnated either naturally or artificially with gases or salts, organic or inorganic matter, its value is proportionately lessened, if not rendered positively injurious. In the list of objectionable beverages we include all soda and aperient waters, without exception, since none of them possess the merits attributed them, and the majority are harmful in their ulterior effects. Tea and coffee also should be prohibited, as their active principles vitiate the normal chemical constituents of the

digestive juices, and also deprecate the nerve action of the alimental organs. While water affords the most bland and efficient solvent, its use is often unwittingly abused, much mischief ensuing therefrom. For its intelligent employment as a remedial agent, it may be well to note the relation it sustains to the digestive process. In the first place, liquids should not be ingested simultaneously with solid food, and we maintain that the prevalent custom of drinking at meal-time is the chief cause of indigestion, and will briefly adduce reasons for holding this belief. For the fulfilment of the digestive process, nature has provided and located along the alimental canal certain glands, whose functions are the secretion of various juices which exert a chemical action upon the different articles of food, thereby reducing the various alimental matters into a state fit for absorption and assimilation. Three pairs of glands pour a viscid alkaline fluid into the mouth, where, through the process of mastication, it is mixed with the food, and converts farinaceous and starchy food into dextrine, or grape sugar, but this salivary fluid does not act upon the albuminous compounds. These pass to the stomach, where there are a myriad of glands secreting an acid fluid, and by this gastric juice the albuminous food, meat, eggs, etc., are converted into an assimilative matter termed peptone. Fatty substances are not directly acted upon until they pass out of the stomach and come in contact with the bile and pancreatic juice, whereby the oleaginous matter is emulsified, or minutely divided, to be readily taken up by the absorbents. These several juices must possess a certain degree of strength and consistency, in order that their chemical action upon the ingesta may be complete. Now, it is quite obvious, if their normal standard be perverted or lowered by the admixture of diluents or inimical ingredients, their action is correspondingly impaired, and the ulterior change of food into normal chyme is prevented. It is readily comprehended that starchy matter, imperfectly masticated and washed into the stomach with some artificial liquid, is unprepared for assimilation, and therefore undergoes fermentation, often giving rise to acidity, flatulence, etc. Furthermore, when large quantities of water or other fluids are introduced into the stomach at the time of eating, the gastric juice is so depreciated as to be incapable of converting albumen into peptone, hence digestion of these substances is postponed until the extraneous fluid is absorbed, by which time the ingesta have often undergone an unwholesome transformation. A decidedly erroneous belief obtains with the masses, that liquid foods, such as beef teas, broths, gruels, etc., are more readily assimilated than more solid preparations, whereas the converse of this is true. A bit of raw or properly broiled beef, thoroughly masticated, is much more readily digested than a tea made of the

same quantity. A bit of dry bread, eaten slowly, is far preferable as regards assimilation to the same amount of gruel. Let it be distinctly understood that the digestive process is always suspended until the surplus fluid has been absorbed. In some persons the absorption is accomplished much more rapidly than in others, and therefore the interference arising from the extraneous fluid is relatively brief and unimportant. Where the digestive powers are impaired, however, it is a serious obstacle in the way of assimilation. Any one whose digestion is performed vigorously and perfectly, will find it difficult to realize the importance of these suggestions, but the victims of enfeebled digestion can, from actual experience, readily confirm the truth of these assertions. The principle is physiologically based, and applicable to all mammalia. At one time the writer witnessed in the lower animal life an apt exemplification of this. A stable had been built for the accommodation of a number of favorite horses, and in each manger was placed a small trough of constantly running water; therefore as the horses ate their dry food they took with it frequent sips of water. Before many days their physical condition was noticeably depreciated; they became listless, evinced an aversion to food, were easily fatigued, and their coats lost their glossiness and were roughened. Veterinary skill was employed for some time with no success, until finally it was suggested that the mode of watering was the source of the difficulty. Acting upon this hint the appliances were removed, and the animals watered an hour after their grain had been eaten, and the result was a speedy return to their former health.

In conformity with the physiological views above mentioned, we recommend a total abstinence from all artificial diluents at the time of eating; this rule is commendable for all, but must be rigidly enforced with patients subject to feeble digestion, which condition is almost invariably associated with chronic costiveness. Water should be taken freely but slowly a full hour before meals. This secures the cleansing of the stomach from all residual, grumous matter, a portion of it is absorbed, and the remainder passes along the canal acting as a solvent. Large draughts of cold water should be avoided, since it chills the delicate tissues and nerve filaments, and although no evil effects may immediately follow, they will be experienced eventually, and when they do appear are usually very intractable. In the morning therefore, on arising, let a goblet of water be slowly drank, another on retiring, and if it is found necessary a third may be added at midday, but it is well to form the habit of drinking but twice in the twenty-four hours. We remark, incidentally, that the custom of drinking *ad libitum* and freely during the warm season is most

injurious, and also entirely unsatisfactory, as every one will testify, from his own experience, that the heat seems more oppressive and less endurable after copious cold draughts. Superabundant fluids within the tissues tend to elevate the bodily temperature, therefore by transudation nature hastens to rid the system of it. When water is not discharged in this way it has a propensity to promote corpulence. Observation will show that persons tending to obesity are relatively large consumers of liquids. Should there be evidence of irritation or catarrh of the gastric mucosa, water as hot as can be comfortably swallowed should be substituted for cold, as it exerts a well-known constringent effect upon the dilated or indolent capillaries, whereas the secondary effect of temporary refrigeration is an increase of hyperæmia. To this is due the circumstance that hot water will often arrest obstinate vomiting, which will only be aggravated by cold. When there is an excess of acid in the stomach, the juice of a lemon added to the goblet of water will not only render the drink more palatable, but will also correct the disposition to an over-secretion of acid, upon the same principle that we administer laxatives for the cure of diarrhoea. The lemon juice is also a valuable "anti-bilious" agent. When we have to deal with a chronic case, where the patient has long depended upon cathartics and enemas, we will find a highly desirable laxative in ordinary West India molasses, which, unlike other laxatives, has no objectionable secondary effect. This may be mixed with the drink or eaten with the food. From one to four teaspoonfuls taken twice daily will usually secure alvine solvency.

For obvious reasons the inordinate use of sweets should be discountenanced, therefore we gradually dispense with the treacle as speedily as practicable. The pulp of an apple, swallowed before the water, each morning, will also prove an excellent adjunct, and is preferable to treacle should the individual be predisposed to "heartburn" or acidity of the stomach. It should be reduced to a pulp by scraping, or else be very thoroughly masticated. A sound, fresh orange eaten before meals is also a commendable solvent.

SPIROMETRY.

BY ELDREDGE C. PRICE, M.D., BALTIMORE, MD.

THE arts of elocution and vocalization hold conspicuous places in the curriculum of an ordinary education; but respiration, the art upon which they are based, is rarely considered.

By the *art* of respiration, I mean breathing with a view to pulmonary and cardiac conservation.

The majority of people continuously utilize less than one-half their lungs; this is the upper half. The

part thus overworked is rendered susceptible to disease; the apex, therefore, becomes the favorite starting point in phthisis. Furthermore, under violent exercise the muscles call for a liberal supply of blood; the heart endeavors to respond, but the small aerating surface requires a rapid abstraction of blood thence, and in consequence a rapid supply of oxygen, which means rapid breathing and violent cardiac action.

From this may result hypertrophy of the heart, dilatation or possibly valvular lesion. On the contrary, if the full breathing capacity is utilized, the same amount of exercise will simply produce beneficial results. Individuals having a tendency to tubercular deposits, but who use their lungs intelligently, may have these agglomerations in some other organ or tissue, but certainly not in the lungs, and it is readily seen that catarrhal phthisis would but rarely occur.

It is this compulsory use of the whole of both lungs that has earned such a reputation for high altitudes in cases of phthisis.

Those of us who have tested the breathing capacity of apparently healthy individuals, and have been surprised to find how far it often falls below normal, thus discover a perfectly natural cause for the deficit in the habitual disuse of both the lungs and the muscles of respiration. This occurs more frequently in women than in men, from various obvious reasons: lacing, sedentary habits, etc. It is here spirometry is valuable.

True, it is negatively diagnostic, but the negation of elimination is often a most valuable mode of diagnosis. Not only may spirometry be used as a means of diagnosis, but as a prophylactic against weak lungs also. The habitual inflation of the lungs to the fullest extent will invariably increase the breathing capacity, and give the experimenter greater pulmonary endurance under violent exercise, *i. e.*, make him "long-winded," as it is vulgarly expressed.

Spirometry has been neglected, just as have prophylaxis and hygiene, and the few men who have become interested in the subject have never yet produced a perfect instrument for measuring the lung capacity; the medical profession has not beheld a spirometer.

Waldenburg, Hutchinson, Brown, Barnes, Burt and Marsh have all attempted, and failed, to construct reliable instruments. To ascertain the breathing capacity, an instrument is needed that will simply measure the amount of expired air.

In all the instruments mentioned, the amount of expired air plus the chest muscle force, is measured. The spirometer should be strictly what its name implies, a breath measurer, and nothing more.

Hutchinson's pneumatic apparatus was, for a long

time, considered the best of the kind. Dr. Loomis, in his "Physical Diagnosis," says of it : "The measurements of the capacity of the lungs for air by means of Dr. Hutchinson's spirometer—or of the 'vital capacity of the chest,' as he terms it—have been shown by experience to be very unreliable, and his instrument has fallen almost entirely into disuse."

'Brown's somewhat similar water spirometer, is open to the objection common to all the named instruments.

Barnes' dry meter, which is no better than Hutchinson's or Brown's, was used, and is still used by some physicians.

Burt's instrument requires a maximum amount of muscular strength, and in the haemorrhagic diathesis its use is dangerous. In fact the instrument is but a modified manometer, and is no index of lung capacity. I have seen the worthlessness of this instrument as a spirometer illustrated, by a well-muscled man of five feet seven inches in height, who at one sudden and powerful expiration forced the mercury above the 300 cubic inch index, a few grains even shooting out of the tube. This gentleman's actual respiratory capacity, by future accurate mensuration, proved to be 248 cubic inches.

Hutchinson's and Barnes' instruments are less objectionable than Burt's, and Marsh's more nearly approximates the pure spirometer than any, although the muscle-strength element is not wanting.

The terminal bag, cylinder, or receptacle of whatever kind, of the spirometer, requires a certain amount of force to fill with the expired air, and the least amount of resistance to be overcome in all the mentioned instruments is a definite *vis inertia*. As remarked, Marsh's instrument offers the least amount of resistance, but unless the bag is so thin as to readily burst if very fully distended, the force required to dilate it cannot be supplied by individuals of slight muscular strength. The resistance in this instrument is a much smaller obstacle to a correct measurement of lung capacity in strong-muscled individuals than in weak subjects, but it is in the latter class that the use of the spirometer is of chief value. Furthermore, the walls of the bags used by Marsh are not of uniform thickness, and consequently different instruments offer a variable amount of resistance, and therefore, results obtained from two bags of unequal resisting power are unreliable.

Although the spirometer is little used, yet, when needed, such an instrument should be reliable. To accomplish this end, I have interposed between the lungs and the receptacle in which the expired air is measured, a large rubber bag, with an opening at each end, capable of containing between 300 and 400 cubic inches when simply filled without distention. This receiver offers a minimum amount of resistance, upon

which we can always depend. Between this primary bag, or receiver, and the final receptacle is the ball of a hand-ball atomizer, from which the air is forced immediately into the final receptacle.

The following is a description of the spirometer:

A glass mouth-piece to which is attached a small soft-rubber tube, binding which is an ordinary fountain-syringe key; this tube terminates in a large rubber bag, the receiver, capable of holding, undistended, 300 or 400 cubic inches; leading from the receiver is another small rubber tube which opens into the ball of a hand-ball atomizer, which in turn empties into the final receptacle through another rubber tube into which is fitted a valve with a screw joint, between which and the meter is another key. The spirometer is manipulated as follows: The lungs of the tester are emptied directly into the primary bag through the mouth-piece; the key between the latter and the bag is then closed. The hand-ball is grasped and the air pumped from the primary bag into the meter, and the key between the latter and the ball closed. The meter may now be detached from the rest of the instrument, at the screw joint, and measured with the gauge provided for a Marsh instrument. To empty the meter open the key.

Having thus modified Marsh's apparatus, I made a number of comparative tests between the Barnes meter and the Marsh bag, and found them to vary in every test. For example, the amount of air that raised Barnes' index to 500 cubic inches would register less than 300 cubic inches in Marsh's bag.

Finding such disparity existing between these two instruments, both of which are claimed to be reliable, I determined if possible to prove which one, if either, were correct. For this purpose I had constructed a drawn brass cylinder 36 inches long, and 3.5 inches in diameter, having in consequence a capacity 346.32 cubic inches, or 9.62 cubic inches for every inch of cylinder altitude. Into this cylinder I had fitted an air-tight sliding valve, or piston, penetrated in the centre by a brass tube one inch longer than the cylinder (stopped at the free end by an ordinary cork stopper), and marked off in inches as an index. Over the open end of the cylinder is fitted a tight cap with a hole in the centre through which the piston-rod freely glides, and from the level of which the index is read.

The bottom of the cylinder is perforated by a small brass tube, to which is attached a rubber tube provided with a joint, to which may be attached a Marsh instrument, or, as is intended, the pipe leading from the air-pump of my apparatus.

Having attached the latter to the cylinder feed-pipe, the air from the receiving bag is pumped into the cylinder. To overcome all possible resistance, traction may be applied to the piston-rod, and the

cylinder thus easily filled without compression of the contained air. To illustrate the ease with which the piston is moved, it is only necessary to mention that when a Marsh bag is connected with the cylinder the elasticity of the rubber is sufficient to overcome frictional resistance and cause the piston to move. Compression of the air measured, is at once seen to be a factor of no importance in the experiments which were tried.

This describes the spirometer and its *modus operandi*. The absence of resistance to inflation allows a poorly muscled individual to expel the full amount of air used in respiration, which we have seen is not the case with any instrument previously made. The meter was carefully and perfectly constructed, thus becoming mathematically correct. Upon experiment both Barnes' and Marsh's instruments proved to be inaccurate; but of the two the Marsh bag was the nearer correct, and varied much less than did the Barnes meter. For example, when 260.37 cubic inches were forced into the latter, the index registered 430 cubic inches, and 278.98 cubic inches filled the same instrument to its full capacity of 500 cubic inches; while 260.67 inches were registered by Marsh's instrument as 264 cubic inches, less than 4 cubic inches too much, and 354.36 cubic inches were indexed as 371 cubic inches. Neither the Barnes nor the Marsh meter is absolutely accurate at a single point of the index; even at the lowest capacity they are a fraction incorrect. So far as perfect accuracy is desired these instruments are useless, but for approximate capacities the Marsh bag may be used, unless the patient be poorly muscled; then the bag gives no information of "vital capacity."

To illustrate I append a few examples:

MARSH'S INSTRUMENT.

	Without hand-ball and large rubber bag.	With hand-ball and large rubber bag.
No. 1. Woman, school teacher	18 cubic inches.	140 cubic inches.
No. 2. Man, physician	156 " "	180 "
No. 3. Man, minister	199 " "	230 "
No. 4. Man, music teacher	212 " "	241 "
No. 5. Man, clerk	186 " "	205 "
No. 6. Woman, no occupation	90 " "	140 "

Should any reader of the above feel sufficiently interested in spirometry to wish an accurate instrument for measuring "the breath of life," I have, I hope, given an adequately lucid description of such an apparatus to render its construction quite possible by any maker of scientific instruments. If, however, the Marsh bag be deemed sufficiently accurate, the addition of the hand-ball and large rubber bag will make a portable and moderately satisfactory spirometer.

STATUS OF THE MEDICAL EXPERT.*

By H. W. TAYLOR, TERRE HAUTE, IND.

MEDICAL expert testimony is held in almost universal contempt, at the present day, and for cause. It is confessedly unreliable and inconclusive. And it is generally contradictory to a bewildering degree. Our courts constantly present the spectacle of medical experts arrayed on opposite sides of a case; and giving testimony so diametrically opposed, each to each, that judge, jury and audience are fain to weigh the evidence as did the doughty Wouter Von Twiller—by balancing the opposing accounts in either hand, and deciding solely upon preponderance of avoirdupois.

It may be fairly asserted, that where medical experts are produced on opposing sides of a case, their testimony is, as a rule, disregarded by judge and jury, as well as the public. The disagreement of doctors is proverbial. Their testimony is warped by public opinion, as was notoriously manifested in the Guiteau case. A very noted expert declared the assassin sane because he delivered himself to the authorities immediately after firing the fatal shot. Within a month an adjudicated lunatic shot at this same medical expert, and thinking he had succeeded in killing the medical gentleman, immediately surrendered himself to the authorities *a la* Guiteau. I believe he is still in one of the New York hospitals for the insane.

The great fault of medical expert testimony is, that the law compels it to be evolved almost wholly out of the individual "experience" of the witness. This leaves him without a standard by which he may be measured. He is thus left without rule; without law; without precedent, for his opinions and deductions, which constitute medical expert testimony.

In this particular he stands alone. No other expert but must show familiarity with the literature of his subject before he is entitled to have his testimony considered. The laws of a foreign country, when proved by an expert, can only be so proved after the fact is established that the witness is learned in those laws. His mere "experience" will not serve. He must show that he possesses accurate knowledge of the laws or customs that he is called to testify upon. And so of all other subjects upon which expert testimony may be produced, save only the subject of medicine. Here the mere fact that the witness has an "experience" to draw from supplements all necessity for establishing the fact that he has real knowledge of the subject in question. This enables the blatant ignoramus to give "expert opinions" with far greater show of positiveness than can ever come from the really learned and conscientious medical men, whose accurate knowledge enables him to see and feel the full force of all the doubt and indeterminateness that

* Read before the Terre Haute Law Club, Feb. 23, 1884.

still hang cloudily about the upper heights of the medical sciences.

I have indicated that the common-law rules governing the production of medical expert testimony are in fault for its inefficiency. I believe that they are wholly at fault for all the evils of this class of evidence. Those rules were made in a day when medical sectarianism was much more rife than at present. Every speculative theorist had his clan of followers, and the most perplexing contradictions permeated all medical thought.

But even then these rules, made by eminent jurists, were not in keeping with the logic of the law. The written law of the land was taken judicial notice of. Volume, page and section were read in open court, and formed conclusive presumptions then, as now. No amount of opinion could prevail against settled principles of law. Indeed, no amount of opinion could even be heard against settled principles of law. The statutes of a State were then, as now, conclusive of the laws of that State. And in the absence of statutory enactment, the common law was then, as now, equally conclusive. Then, as now, the opinions of eminent jurists, known to be learned in the law, were held to be authoritative interpretations of statute and common law, as applied to individual and specific cases.

It may be worth while to ask, in the line of the *reductio ad absurdum*, what would be the effect upon our judicial system, if it were no longer permitted that reference be made by judge nor barrister to printed books of statutes and common law, and that only the "experience" of lawyers could be called upon for the framing of decisions and opinions. All rules of evidence and pleadings would perish with the one generation. The mere opinions of adverse barristers would soon lose all the weight which they had formerly obtained from the books. Law would become a mere legend—a medley of conflicting opinions. And the succeeding generation of barristers would be driven to submit, for their clients, a resort to the ancient modes of arbitrament in vogue before the days of letters and learning.

This figure is not purely hyperbolical. There are no books of law which are received in our courts as more conclusively presumptive of the principles and practice of law, than are certain medical text-books in the decision of mooted points in medicine. It may be broadly said, that the mass of the later editions of medical books contain the rules by which the conduct and opinions of medical men are guided almost as definitely and completely as our courts are guided by the statutes and common-law as exemplified in the printed opinions of eminent jurists. Indeed, I am inclined to think, that medical opinion is more abjectly subordinated to written authority

than even is legal opinion—if such a degree of subordination be possible. What medical man would dare, in the presence of his colleagues, to dispute the authority of Gray on any point in human anatomy? Even a pardonable ignorance of this essentially elementary branch of a medical education, is sufficient to bring the medical expert into derision. In the Civil Rights Bill, quite recently, the Supreme Court of the United States were divided in opinion of the law—eleven to one. It is safe to say, that of the 90,000 practitioners of medicine in this country, not one man can be found to differ with Gray on any question decided in his printed text book of human anatomy.

Nor is it in anatomy alone that medical laws are fixed and ascertainable. The sum of medical knowledge gathered into the various text-books of surgery, obstetrics, pathology, morbid anatomy, medical chemistry, physiology, gynaecology, diagnosis, and even the more transitory and unsettled subject of therapeutics, contain a complete summary of those medical laws which govern medical opinion and procedure, as definitely as the statutes and common-law contain the rules of judicial action in all civil and criminal proceedings in the courts of our country.

Then why not produce these printed medical laws on the witness-stand, for the purpose of confirming or disparaging the medical expert witness. Let his knowledge of any given subject be put to the direct and unequivocal test of the printed authority. To procure for the medical witness the consideration due only to the expert, let him be put upon such trial of his learning as was resorted to in order to determine his right to the diploma of his college as his authority for practicing his profession. Let him be confronted with modern text-books on all the subjects upon which he may testify. Let him be permitted to refer to volume, page and paragraph of such books. And let him read in confirmation of his opinion; or more properly let him read from the books his own authority for his opinion.

This should obviously be a preliminary examination of the medical witness addressed to the court, and the event of which should determine whether the testimony of the witness should go to the jury as medical expert evidence.

The learned editor of Greenleaf is constrained to say, that there is a paucity of reasoning for the rule that excludes medical books from the court at *Nisi Prius*, whilst the court in Banc is compelled to take these same medical text-books in hand in order to determine, intelligently, the questions in dispute. I agree with him most fully. And I go so much farther, as to propose a remedy for the evil. Let the State legislatures enact that before any evidence can go to a jury, as medical expert evidence, a preliminary

examination of the witness shall be had before the court, touching his qualifications to testify in that capacity. Let this preliminary examination be conducted with reference to modern printed authorities recognized in the college in which the witness took his degree. Let the books themselves be read in confirmation or disparagement of the witness. And let his status be fixed by the result of such preliminary examination. The records of the court would thus become a certificate of qualification for the really learned medical man, available on future occasions.

Then, indeed, will the status of the medical expert be fixed and ascertainable. Then will there be an absolute standard of medical learning recognized by the courts of the country. Then will medical expert testimony be taken out of the obscure domain of irresponsible individual opinion. Then will the testimony of the really learned medical witness, be evidence which can be definitely weighed and estimated. Then will the charlatan and medical mountebank find it no longer possible to masquerade in the guise of the medical expert without suffering dire and sudden disaster incident to full and public exposure of his ignorance and pretense.

HERNIA.—ITS PHYSIOLOGICAL FACTOR AND MECHANISM.

BY GEORGE H. TAYLOR, M. D., NEW YORK.

(Continued from page 14.)

PHYSIOLOGICAL SPECIALIZATION A REMEDIAL PRINCIPLE.

WHILE the provisions for the sustentation and the retention of the contents of the abdomen are undoubtedly sufficient in health, as is fully proved by their remaining *in situ*; and while it may be conceded that hernia can result only from the failure of these physiological provisions, the question will still arise as to the adequate remedy when once the difficulty already exists. Given, a rupture of the abdominal wall through which a loop of viscera protrudes; strangulation is imminent or present, or strong adhesions bind the loop of viscera to the hernial neck or adjoining peritoneum. Are the resources of mechanico-physiology adequate to remove the displaced and protruded portion of intestine, and secure the permanent restoration of the integrity of the parts concerned in the affection? The answer is, undoubtedly, yes; the mechanico-physiological resources are abundant, when intelligently directed, to secure these ends in the fullest degree. The undetermined question is not the facility for mechanical replacement, but the re-

maining vitality of the suffering local tissues, after impairment by so serious an injury as hernia sometimes proves to be. Ordinarily, the mechanical resources at command, furnished by the organism itself, are superfluously abundant; but local vital power may be too far impaired to permit restoration.

The desired remedial effects, both in its mechanical and its vital aspects, are secured by *specialization*. And, before proceeding further, it is important to understand what is meant by the term as well as the process of physiological specialization. It consists, in short, in concentrating at a pre-determined point the dynamic products of physiological activity. Specialization regards the organic system as being practically a reservoir of energy, capable of becoming directed, or urged in any special direction, in such a way that the functions, organs and tissues composing the favored region, are permanently benefitted thereby.

The application of this principle to hernia is as simple as any in physiology. The protruding viscera are raised, as a hand is raised, by employing the mechanism provided and eminently adapted to that purpose. The hernial tissues, and all the contributory faults are corrected, as the structures composing the arm, weakened by prolonged disuse, or by inhibition of function from special causes, as local disease, are restored. The principle and its application to all other parts of the organic system are, at least, no novelties. Still, as its practical application to hernia has been neglected, the illustration may be extended, if only for the purpose of familiarizing the reader with its hernial application.

* Whenever one stretches forth an arm the incitation of the muscles by the will causes or develops within such muscles sufficient mechanical energy to overcome its inertia, the moderate resistance afforded by the weight of the member. The act, doubtless, super-induces in the muscle cells which engage therein, such nutritive changes, involving interchange of matter, as fully compensate the expenditure of energy, and, in addition, a degree of preparation for its repetition. This, however, is but a physiological incident; and expenditure is so moderate as not to impair or restrict expenditures in other directions as freely as they may ordinarily be demanded, either simultaneous or immediately succeeding. Such opposing expenditures invite diffusive or equable distribution of nutritive support, and may be regarded as normal and wholesome.

If the hand seizes an object and raises it, the increased demand for expenditure is also readily supplied from the general resources of the system; but its capacity for supplying the simultaneous demands of other organs also manifesting muscular power, is sensibly diminished. This will be seen should both

hands, at the same time, attempt to raise equal weights. While the resources are not increased, the effects are weakened by division.

Should the object to be raised by manual exertion prove to be very ponderous, then all the energy the vital system is capable of yielding is called forth; the increased resistance demands and receives increased incitation proceeding from the will, usually called effort, which travels over appropriate conduits to the muscles adapted to the end in view. The field of incitation is not limited to the muscles of the hand and arm, but extends to a series of other muscles and nerves which contribute their share to swell the stream of dynamic energy till it shall equal the resistance. These nervous and muscular powers converge at one point, and are tributary to a predetermined locality of expenditure. The vital organism is resolved into a reservoir of energy with a single outlet.

The facts to be noted in connection with specialization of physiological dynamics, for a distinct mechanical purpose, are these:

During the manifestation of the higher degrees of muscular energy, in any particular direction, with a view to the greatest mechanical effects, all physiological activities incompatible with this end fall into a state of suspense or inhibition. Such action robs the remainder of the system of its available power by the demand thus made upon its resources. The incitation and the inhibition have some measure of correspondence.

Also, during such manifestation of muscular energy, nutritive response occurs along the line which the specially engaged energy travels; in the cerebral centres of the will; in the nerve conductors; in the substance of the muscles participating in the predetermined action. These nutritive changes inure to the special advantage of the tissues through which the flow of energy is transmitted. This is proved by their subsequent increase of capacity for the manifestation of power in the respective departments and tissues from which energy has been disengaged.

The consequences of repeated specialized muscular processes, however directed or misdirected, are easily seen. The inhibition and the local specialization are co-equal factors in controlling nutritive support of function. There gradually follows a permanent establishment of the supremacy of the parts engaging in predetermined processes whose product is energy; while parts and processes previously predominant, whether morbidly or otherwise, are diminished, and, if desirable, made to resume their natural and wholesome physiological importance.

These statements of some of the principles of elementary physiological direction and support of power afford the following inferences:

Health is the concomitant, to some extent the result of the heterogenous activity of mind, nerve and muscle; causing diffusion and therefore equability of nutritive effects. Health may be, and often is, injured by such partial and local nervous and muscular action as serves to prevent such necessary diffusion and equilibrium. This is the common cause of chronic ill health in civilized life, including that ultimating in hernia.

On the other hand, the capability of misdirection involves that of improved and amended direction of the physiological energies, and the permanent record of such amended action incorporated in local tissues of the body. The desideratum is intelligent command and guidance of vital activities. By this means the physiological activities and their products of energy, and the nutritive support of these, may be guided, concentrated and emphasized at any selected point—as the faulty and failing locality—with unerring precision and force.

SPECIALIZATION AS APPLIED TO HERNIA.

While the principles above stated are sufficiently obvious in relation to the voluntary muscles which clothe the limbs, their applicability in hernia is not so readily seen; at least the failure to apply them in practice would so indicate.

The difficulty lies not in the nature of things, but in the obstinacy of habit. The hands and feet are the almost exclusive agents of the will, and the usual instruments for the manifestation of mechanical power. The power of habit in thus regarding these members serves to conceal the fact that the energies of the organism may be directed into other channels than these if the necessary conditions are supplied, which only need be the same as exists in the use of the hands and feet.

Another embarrassment to the conception of applying the same physiological conditions to the masses of muscle whose failure is the ultimate cause of hernia, and whose restoration is its radical cure, is the rhythmic nature of the action of these muscles.

The existence of rhythm appears to convey the impression that the functions of these muscles are involuntary and only involuntary. The truth is quite otherwise. The chest and the trunk muscles yield obedience to the will whenever its incitation is brought to act upon them. The rhythmic muscles of the chest and abdomen are susceptible to cultivation by use in the same way as are those of the extremities, and to far greater and more permanent effect. This result is a consequence of these rhythmic functions. Cultivation very soon merges into habitual increase of rhythm; and this increase is self-perpetuating, and yields far less rapidly to the deteriorating effects of inaction, enforced or otherwise.

The *one* condition essential for securing the high degree of specialized effect necessary for therapeutic purposes, has been too much neglected by physiologists and therapeutists. This is shown in the preceding section, and consists in opposition, *resistance*. Indeed, active power dissociated from resistance, is well nigh inconceivable. Certainly it is resistance which gives direction and emphasis to muscular power, and the whole mechanism of vital organic dynamics.

If, as in the foregoing examples, the arm raises without the weight, so much vital energy as would have equalled the resistance afforded by the weight, must have remained in some other form, through failure of the incentive required for its dynamic manifestation. The nutritive activities accompanying such development would have failed to occur.

When, however, the weighty body seized by the hand supplies adequate resistance, the incitation is greater, and the will becomes more vehement, and muscular activity and its nutritive consequences rise to their highest and also to their best standard.

The lesson afforded by these familiar illustrations from common experience is this. The supply of adequate resistance, the proper and accurate adjustment of the resistance to the desired end at specialized localities, insures the localized nutritive activities called forth by this condition; and that these effects are susceptible of being carried forward to any degree required for therapeutic purposes, and their record remains a permanent legacy in the tissues.

HOW TO LOCALIZE SPECIAL MECHANICAL EFFECTS IN THE PARTS ASSOCIATED WITH HERNIA.

The following physiological points require to be secured: First, to cause the muscles which usually act rhythmically to become subject to extreme incitation by the will, so as to overcome the inertia of the abdominal contents, by means of the muscles mechanically disposed for that use, just as a weight is raised by the hand. Second, to secure so much of the same action in the constant rhythm of the trunk muscles as to give permanency, and immunity from local consequences of their weakness and insufficiency.

To illustrate the physiological points involved to the satisfaction of the inquirer, it will be well for him to employ personal tests for their verification. To this end, let him place his hand on any part of the anterior of the trunk of another person, and pressing with decided force against the part covered by the hand, wait a few moments for whatever consequences may ensue. He will soon observe that the hand thus placed rises decidedly and forcibly with every inspiration, and recedes as decidedly at each expiration.

Without moving the hand, let him command the co-experimenter to *breathe deeply*—as deeply as he can. He will now observe that the part covered by the hand not only rises and falls through a larger range, but that the *remainder of the trunk has become motionless*, as respects the rhythm of respiration. The whole of the air of respiration is exchanged through the exclusive effect of the rhythmic motion occurring under the pressing hand; and the presence of the hand and its pressure, that is the local resistance, have determined the direction and the degree of the onflow of energy, both nervous and muscular, to the one exclusive predetermined point. The involuntary motion has become volitional; the usually diffused expansion and contraction has become concentrated to a very circumscribed region, which thereby gains the advantages flowing therefrom.

To vary, and still further substantiate the physiological principle of local specialization, let the pressure of the hand be applied to *any* localized part of the chest; to the sternum; to the sides; to the top; at one side, or the other—let it be thus applied to the abdomen, the epigastrum, the suprapubic, the hypochondriac regions; each in turn. It will be found that the same consequences follow, viz., that of increased motion of the part covered by the pressing hand; a disposition to, and in general, complete inhibition of motion at all other portions to which the rhythm of respiration can possibly extend.

This experiment may be carried to still greater therapeutic effect. Uniform pressure soon ceases to afford physiological incitation; alternations of pressure, which correspond with physiological activities of all kinds, afford a more legitimate form of incitation. Instead, then, of steady compression, let the pressure be increased and diminished with a rhythm agreeing with that of the motion assumed by the part compressed; and immediately the *degree* of motion is increased, and the volume of air exchanged at each respiratory act is correspondingly increased. By deft management of the incitation afforded by this means, the extent of the rise and fall of the part immediately covered by the hand will become surprising to one who first experiments with reference to specialization.

It hence appears that the trunk muscles in which the rhythmic form of action is due, are no less amenable to the control of the will, and subject to voluntary motion, than those of the limbs; that such motion may easily be incited in this class of muscles at any location, even though it be quite limited; that these muscles, by due degrees of incitation, will, in consequence, take on extreme degrees of action; that one consequence of such extreme

incitation is partial or even complete inhibition of all opposing muscular activities; and that another, and the highly desired one in the kind of local failure which results in hernia, is greatly increased nutritive action, and all the consequences derivable from such action at the region suffering the consequences of its deficiency.

RAISING AND DRAWING IN THE HERNIAL PROTRUSIONS.

The principles of physiological sustentation by means of vertical rhythmic motions extending to the pelvis, together with those of localization of physiological and of mechano-physiological action with special reference to the hernial tissues and their connections, having been shown, it remains to prove the adequacy of these to accomplish the desired purpose in hernial protrusions.

When the two hands of a person are tightly clasped and resting firmly on the top of the head, the following mechanical consequences are produced:

1. The muscles connecting the arms with the chest-walls are rendered tense in the position of *extreme distension*, and the chest-walls are thereby pulled asunder, and *become fixed and immovable*; there is enforced suspension of power through that channel.

2. The rhythmic motions necessary for respiration being no longer possible with the walls of the chest, must now be wholly performed by the muscles of the anterior abdominal walls. The amount of air changed by the respiratory act, say 30 cubic inches, is, therefore, represented in the rise and fall of the abdomen to that extent.

The respiratory act becomes, in consequence, a vertical reciprocating motion of the whole contents of the cavity of the body, the visceral contents of the abdomen, as well as the lungs and their aeriform contents. The upward motion is necessarily opposed to gravitation, and, indeed, to all counter forces.

3. The amount of air displaced in respiration, and therefore, the extent of the vertical motion which, in the position described, is its necessary concomitant, may easily be increased by simply increasing the need or demand for air. This may be readily done, experimentally and tentatively, by running up a flight of stairs, being careful during the exercise to maintain the fixity of the chest, as before. It will now be seen that the vertical oscillation is converted into an *upward pulling*; it might be compared to pumping. This is because the ordinary requirement of respiration is multiplied by four or five; and instead of thirty, no less than one hundred to one hundred and fifty cubic inches of air are needed to liberate the dynamic energies expended under the changed circumstances. It follows that the vertical

rhythmic motion of the abdominal contents increases to an inch or even more in place of a fifth or fourth of that amount.

We may now modify the experiment by causing the greatest possible expansion of the upper portion of the body, which of necessity occurs chiefly at the intermediary region before described *without* increase of respiration. Several ways of doing this will be described. The number of cubic inches that can possibly be changed, is the amount of fluctuation of chest space. But the lungs do not suffer corresponding inflation, nor, indeed, any inflation whatever. The lower part of the chest space becomes filled with other contents. Those of the abdomen are compelled to rise to the extent of the expansion, and its exterior wall is actually driven in to the same extent. The weight lifted is not measured by that of the abdominal contents, but by the tension and the power of the muscles of the chest. In this case, the diaphragm rather resists the effect, and assumes the form of extreme concavity. The ultimate mechanical effect produced is in the abdominal coverings of the hernial region. The principle here shown may be regarded as the *key note* in the radical cure of hernia.

This experiment illustrates and enforces the physiological principle that specialized and localized effects are attainable only by eliminating all extraneous factors. By the method of exclusion, above shown, the whole of the mechanical power represented in the respiratory movements, both when at their least and at their greatest possible manifestation, is easily made available at a specialized region, just where its therapeutic value is needed.

To the great power of the muscles converging to one purpose, in connection with the aid of atmospheric pressure, as above shown, may be added the no inconsiderable aid derivable from gravitation. Surgeons have practically found this aid to be of service in reducing hernia, even without the more important assistance of muscular power, as above shown. When, however, gravitation is added to the forces above shown, the mechanical effect leaves nothing to be desired.

In the horizontal position, hernial protrusion gives little trouble, because perpendicular pressure is removed. It is plain that were the gravitating force exerted *from* instead of toward the hernial region, an important, though perhaps temporary, point of considerable importance would be gained. To secure this effect, nothing more is necessary than to shift the position of the trunk so that gravitating force may be available in the desired, instead of the contrary direction. This resource fails to cultivate and direct processes of physiology, but is of service to those processes by increasing their intensity and effect.

CLINIQUE.

WHAT ARE THE INDICATIONS FOR THE GUM LANCET?

BY EUGENE R. CORSON, M. D., SAVANNAH, GA.

THE two following cases I copy from my notebook:

CASE 1.—*July 7, 1881.* 10 A. M. Mrs. J. W. brings her child to the office for treatment. The child, a boy of seven months, is large for his age; large head, fair skin, large blue eyes. There is a great deal of fever, rapid pulse, great restlessness and excitement, nervous screams, which the mother informs me lasted during the whole preceding night; bowels normal. The gums over the lower incisors are red and swollen. I lanced them freely, and the child immediately went into a violent convulsion. The little patient was at once placed in a hot mustard bath, with cold cloths and ice to the head, and *aconite* and *belladonna* in alternation every fifteen minutes. The fever and convulsions yielded rapidly to the treatment, and by 4 P. M. the child had recovered sufficiently to be taken home in the carriage. It has remained well ever since.

CASE 2.—*July 10, 1882.* E. W., male, at. fifteen months. Seen by me for the first time yesterday. The child has had pertussis three weeks, and a severe form of the disease; loose cough and loud mucous rales over the entire chest; slight constipation, a good deal of fever, great restlessness and irritability. *Aconite* and *belladonna*.

When seen by me this morning the child was evidently worse; no sleep during the night, and continuous cough; nervous and irritable; high fever and rapid pulse; urine scanty; no pneumonia. The gums were much swollen and inflamed; the first molars and the canines in the upper and lower jaw were almost through. I placed the child's head in my lap and lanced the gums freely above and below, and had hardly done so when the child became suddenly rigid and cyanotic, and ceased breathing. I immediately began artificial respiration, and placed the patient in a hot bath, encouraging the respiration and circulation in every possible way, but to no purpose. The child was dead, and death was evidently caused by shock.

In the first case, the child was on the verge of a convulsion when brought to the office, and the irritation of the lancet was just sufficient to bring it on. The nervous and vascular excitement I ascribed to the condition of the gums, and the lancing, instead of preventing further trouble, hastened it.

In the second case, there was a complication of troubles. The pertussis was aggravated by the irri-

tation of a number of teeth coming through at once, and the nervous system thoroughly depressed by loss of sleep and constant pain and coughing. With the desire of relieving the gums, I lanced them freely, never dreaming of any such unfortunate result. No amount of reasoning as to the inevitableness of death in such a case can ever wipe out the deep regret at the step taken.

I have failed to find in the literature at my disposal any similar cases recorded. They may well suggest the question, "Is lancing the gums justifiable? and if so, when?"

Dentition should be a perfectly physiological process. During the period of the eruption of the milk teeth the child is undergoing a rapid growth and development, with a consequent active circulation and congestion of the developing parts, but entirely within the limits of health. It is a critical period, however, in the child's life. Times of great physiological activity are always critical, in that the system is apt to show constitutional taints, if any, and is more susceptible to deleterious influences from outside. The establishment of menstruation at puberty, and each menstrual molimen, are times of high pressure. They are physiological, and should be accomplished without trouble, but they are often anything but that, and are associated with much pain and suffering. To speak of dentition as a physiological process solely, is to speak of an exception; for those children who pass through their teething period without some trouble are certainly in the minority. And the reason is evident. Difficult dentition depends upon two conditions: some inherited or acquired constitutional vice, and improper hygiene, singly or combined—and few children, in proportion to the number born, entirely escape these two evils. With a healthy child, born of healthy and vigorous parents, nourished by mother's milk or a good equivalent, with good hygienic surroundings, dentition is a physiological process, and the child gets its twenty milk teeth almost as easily as a good head of hair. But take the other extreme: a rachitic child, poorly nourished, surrounded by dirt and dampness, and dentition ceases to be physiological; in fact, the child's whole life is an abnormal one.

In times gone by physicians were wont to ascribe most of the diseases occurring during dentition wholly to the teeth, when, in fact, other causes were at work.

Barthez and Rilliet, in their classic work,* were the first to throw new light on this subject. The diseases of this period they ascribed to constitutional taints, and the rapid development and activity of the gastro-intestinal and cerebro-spinal systems. Since then the direct influence of dentition has been narrowed

* *Traité clinique et pratique des Maladies des Enfants par E. Barthez et F. Rilliet.* Paris, 1853.

down to its proper place, and the diseases of this period are treated by eliminating the many other causes which come in to disturb the physiological life of the child. Admitting the many other factors which may be operative, it becomes often difficult to estimate the exact influence of the local trouble in the mouth. The fever may be due to cold, so easily contracted at this period, and the cough may have a similar origin; and the stomach and intestinal trouble may be due to improper diet. All these things must be considered. When a child, every time it cuts a tooth, has fever and diarrhoea, the cause is apparent, but every case is not so obliging and so easily solved.

Not infrequently we have been called to treat a bowel trouble ascribed to teething, and which the mother imagined must last as long as there are any teeth to come, and which was in fact regarded as beneficial, due wholly to improper diet and bad hygiene generally.

Treatment then is hygienic and constitutional, and local. Of the former I need say here but little. A proper diet, mother's milk, or as near an approach to it as possible, with the use of those remedies which meet the symptoms present, will carry the child safely past this trying time. *Aconite, ars., bell., calc. carb., china, cham., merc. sol., merc. corr., and sulph.*, cover the most cases; and without detracting from the great services rendered by these drugs, I add the *bromide of potash*, in appreciable doses, whose beneficial effects I have again and again verified in the cerebral congestion and nervous erethisms which not infrequently occur, whether directly caused by the teeth or simply concomitants.

Often the local trouble is so slight as not to call for any local treatment. Again we find cases where the physiological congestion of the mucous membrane of the mouth has gone on to an inflammation, and there is a genuine stomatitis, with ptyalism, aphthæ, and ulcers. The gums are inflamed and swollen, and the teeth are struggling to come through. *Borax* and *chlorate of potash* in their local application do good service, and are often invaluable. Their use has stood the test of years, and their value recognized by both laity and profess on.

But are we to go further and use the lancet? and if so, upon what indications?

Lancing the gums dates back to Hippocrates. Vesalius, Ambrose Paré, and the great Hunter practiced it and upheld it. Valleix supported it, and states implicitly in his work, his reasons for it.* Barthez and Rilliet have expressed their views very clearly on the subject.† "Of all local treatment the incision of the gums has been the most vaunted and the most

condemned. Without denying the good results obtained by other practitioners, we must say that we are not personally favorable to this mode of treatment. We have often performed this little operation, but we do not remember a single case where it appeared to have any real value. We would add, however, that we have never seen any bad results follow it. We cannot ignore the fact, moreover, that when performed too soon the eruption of the tooth is retarded by the formation of a scar more difficult to penetrate than the tissue of the gum itself."

Bouchut* writes: "This operation has been very differently regarded by physicians, discarded by some and adopted by others. Though little practiced in France it is very common in England.

"It merits neither the discredit thrown upon it nor the praises it has received. It is a useful operation which may sometimes render great service. It removes the extreme tension of the gums, produces a slight loss of blood which is beneficial, and finally hastens the eruption of the tooth."

Steiner† dismissed the subject in a few words: "Teething cough, like the cough of pregnant women and chlorotic girls, usually defies all treatment, but disappears rapidly after the teeth have been cut. Formerly, the gums of nearly every child suffering from any of the maladies of dentition were cut, but this practice is falling more and more into disuse."

Henoeh,‡ whose work shows him to be a careful and acute observer, says: "I have in earlier years performed scarification with sufficient frequency to convince myself of its entire inutility, and it even appears to me that the cicatrix formed may increase the difficulties connected with the penetration of the tooth."

Tanner§ takes more the English side of the question: "There can be no doubt—for the accumulated experience of the profession is very unmistakable on this point—that when this operation is properly performed in suitable cases, immediate relief often follows; at the same time, it must also be conceded that this proceeding is far too empirically adopted, for we have often seen cases in which lancing has been freely indulged in, and yet no tooth has been even near the surface of the gum. Two conditions seem to be essential to justify the use of the gum lancet; either the gum itself must be in such a state of congestion and inflammation as at once to suggest the necessity for some relief to the vessels in that situation (not to the tooth, for it is absurd to sup-

* *Traité Pratique des Maladies des Nouveaux Nés et des Enfants à la Mamelle*, par E. Bouchut. Paris, 1855, p. 441.

† *Compendium of Children's Diseases. A Hand-book for Practitioners and Students*, by Dr. Johann Steiner. Translated from the second German Edition by Lawson Tait, F.R.C.S. New York, 1875, p. 294.

‡ *Lectures on Diseases of Children. A Hand-book for Physicians and Students*, by Dr. Edward Henoeh. New York, 1882, p. 64.

§ *A Practical Treatise on the Diseases of Infancy and Childhood*, by Thomas Hawkes Tanner, M.D., F.L.S. Phila., 1871, p. 81.

* * *Guide du Médecin Practicien ou Résumé Général de Pathologie Interne et de Thérapeutique Appliquées*, par F. L. I. Valleix. Paris, 1860; tome III, p. 542.

† Op. citat., vol. 1, p. 221.

pose that a tooth can be so bound down by the delicate mucous membrane above it as that it cannot escape); or else the general condition of the child should be one which would warrant any experiment likely to give relief; as for instance, if he were suffering from frequent and apparently causeless convulsions."

Smith,* in his most excellent work, condemns the indiscriminate lancing of the gums, and advises a very restricted use of the lancet. "If the state of the infant is one of immediate danger, as in convulsions, and it is not quickly relieved by the ordinary remedies, scarification may not only be proper, but required, to insure safety. For in such cases all measures, provided they are safe and simple, which can possibly give relief, should be employed without delay. But I can recall to mind only two accidents of dentition which would be likely to be benefited by scarification, namely, suppurative inflammation in the dental follicles and convulsions." And he goes on to say that even this latter indication has been greatly limited by the *bromide of potash*, which controls so well the reflex convulsions and vascular excitement.

The above citations sufficiently show the differences of opinion on the subject. Undoubtedly the operation is being greatly restricted by more careful diagnosis and better therapeutics. That it is not devoid of danger the above cases strikingly show, although the fatal case is one of a lifetime, or rather, one in ten thousand. Aside from facilitating the eruption of the tooth itself, as pointed out by Tanner, the relief to the distended tissues and bloodvessels may justify the operation. I have cut the gum over a wisdom tooth with great relief to the pain by relieving simply the tension in the soft parts. I have not infrequently lanced the gums, especially over the anterior molars and canines, which generally give the most trouble, and have seen at times benefit from the operation, but the two cases I have reported have certainly restricted me in its performance. In the second case, with such disastrous results, I deplore to this day the step taken. In the first case, the swollen and inflamed gums, with the impending convulsions, called for the operation apparently. It is one of the indications laid down by Smith. The operation was a mistake in both cases. As so often happens in medicine, it is difficult to decide between the *pros* and *cons* of a procedure, and the physician cannot be too careful in his examination, or too circumspect in his methods of relief.

When there is ulceration in the dental follicles, I feel no hesitation in using the lancet, on the same principle as opening an abscess in any other part of the body; or again, when the tissues covering the

almost protruded tooth are hard and cartilaginous, as I have sometimes seen, I make a crucial incision down to the tooth. But when they are simply swollen and inflamed I shall make use of the many other remedies at our disposal to allay the local irritation, and to meet whatever reflex symptoms may occur in other parts of the body, and leave scarification as a *dernier ressort*. Under these restrictions the gum lance will be rarely required.

THREE AUTOPSIES AT THE WARD'S ISLAND HOSPITAL.

REPORTED BY W. STORM WHITE, M. D.,
Pathologist to the Hospital.

CASE I. R. C., age 24, Italian, laborer, single. Admitted to the hospital February 12, suffering from emphysema of right lung, aortic stenosis and regurgitation, and mitral stenosis and regurgitation. The patient had lead a very irregular life, but was not addicted to the use of alcohol or tobacco. No previous history of rheumatism. Had been suffering from dyspnoea for several months, but was able to do his usual work. He received a wetting about two weeks before his admittance, from which he was attacked with muscular pains in the back, abdomen and legs, and slight bronchial cough, with little expectoration. The dyspnoea became extreme. He sleeps little at night, sweating profusely. Slight diarrhoea and no appetite. The mucous membranes are anaemic and slightly icteric. General feeling of weakness. R. *china*.

Feb. 14.—Night sweats entirely relieved, conditions otherwise the same. R. *idem*.

Feb. 16.—The first sound of the heart indistinct. Dyspnoea extreme. R. *dig.*

Feb. 17.—Some pulmonary oedema developed.

Feb. 18.—After slight exertion, died almost instantly from heart failure.

Autopsy.—Thirty hours after death. Body well nourished and decidedly icteric discoloration of the skin and conjunctiva. Rigor mortis not marked. Height, five feet seven inches; head, 22 inches; chest, 32; abdomen, 28.

Heart: 28 ounces. Tricuspid valves slightly thickened, otherwise normal. Pulmonary valves normal. Mitral thickened and contracted. Aortic valve also shows thickened cusps. The endocardium presented evidences of an old endocarditis, especially in the auricles, where the cicatricial tissue forms a lace or net-work shining through the endothelium. The thickening of the cusps of the valves, due to this old inflammation, was quite evenly distributed, producing a slight partial stenosis and interfering with the proper closure of the valves, and thereby allowing

* A Treatise on the Diseases of Infancy and Childhood, by J. Lewis Smith, M. D. Philadelphia, 1879, p. 597.

regurgitation. The hypertrophy of the muscular walls of the heart was evidently compensatory, being associated with dilatation of the auricles.

Left lung: 19 ounces. Highly congested (passive), but no evidence of any inflammatory process. The whole lung adherent to the costal pleura.

Right lung: 20 ounces. Decided emphysema and oedema of the upper lobe. Middle and lower lobes congested. The condition of the lungs was secondary to lesions in other organs.

Liver: 48 ounces. Nutmeg or cardiac liver of the most striking type. The pigmentation at the centers of the lobules being deep reddish brown, while their peripheries were bright yellow. The microscopic examination merely revealed the usual characteristics of cardiac liver, except that the icteric condition of the interlobular tissue was more pronounced.

Spleen: 10 ounces. Hypertrophic cirrhosis.

Kidneys and other organs normal, except that a slight icteric staining was observed. Eleven ounces serous fluid in the abdominal cavity.

CASE II. J. L., at. 36. Swiss, laborer, single. Was admitted January 31, suffering from mitral stenosis and insufficiency and tricuspid insufficiency, with a previous history of rheumatism. Symptoms and conditions exhibited *arsenicum*.

Feb. 5.—The feet somewhat oedematous; urine scanty and high-colored; appetite poor; more dyspnea. R. *dig.*

Feb. 10.—Dyspnœa extreme; lies on right side, which is oedematous; urine scanty; right lung considerably congested. Cough, with sanguineous expectoration. R. *idem*.

Feb. 12.—Symptoms all aggravated.

Feb. 14—Both lungs becoming oedematous. General anasarca.

Feb. 15.—Died of asphyxia.

Autopsy, made 24 hours after death: Height five feet eight inches; head, 22 inches; chest, 36; abdomen, 33. Rigor mortis not marked. Body well nourished; everywhere oedematous, especially the legs, scrotum, and pendent portions. Icteric condition of the conjunctiva. Thirty-nine ounces of serous fluid in the abdominal cavity; about 50 ounces of sanguineo-serous fluid in the right, and 44 ounces in the left pleural cavity. Four ounces in the pericardial cavity.

Heart: 19 ounces. Dilatation and hypertrophy, more especially of the left side. Aortic valves normal. Mitral thickened, one cusp being atrophic from old endocarditis. Papillary muscles hypertrophied. One of the cusps of the tricuspid showed adventitious growth of fat tissue, while another was bound down by fibrous adhesions on its posterior aspect, and thickened, producing partial stenosis and regurgitation.

Left lung: 21 ounces. Old pleuritic adhesions at the apex and laterally. Upper lobe slightly oedematous, containing *icteric serum*. The lower lobe oedematous and showing passive congestion.

Right lung: 40 ounces. Everywhere adherent to costal pleura and diaphragm. Upper and middle lobes oedematous and congested. Lower lobe congested and oedematous, and its lower half completely hepatized.

Liver: 56 ounces. Nutmeg or cardiac, being precisely similar to that of Case I.

Spleen: five ounces. Slight cirrhosis, capsule thickened.

Kidneys: five and one-half and five ounces. Capsules non-adherent; slight fatty infiltration of the cortical substance, and congested throughout.

All the other organs were normal, with the exception of a slight passive congestion.

The above two cases were reported merely to keep before our minds the most prominent of the lesions which are apt to complicate valvular lesions of the heart. The processes were evidently similar in both cases, and the conditions of both the lungs and liver were typical. The anasarca, in the second case, is too common to need special mention. Such cases, however, are very frequently complicated with false albuminuria, from the passive congestion produced in the kidneys. I have noted several cases where a real parenchymatous nephritis could be traced directly to this cause. In the following case we find an entirely different condition in the liver, which is also the result of passive congestion, where the congestion is through the portal vein, which was secondary to enteritis.

CASE III. P. Q., at. 66. German, butcher. Admitted March 31, 1884. Suffering from bronchitis and enteritis chronica.

About 16 days ago he fell against a stone, and since then complained of dyspnœa. He took cold about the same time, and has a cough which is worse in the morning, and is accompanied by an easy expectoration of a whitish phlegm. Also has a sharp pain in the lower part of the chest. Bowels constipated, with anorexia. The patient is extremely emaciated, and his abdomen is retracted to such a degree that one could count the pulsations of the abdominal aorta through its walls, and the viscera were crowded upwards under the diaphragm.

Mucous rales heard in the right infraclavicular, right and left axillary and subscapular regions. R. *nux vom.*, 3 x.

April 7.—Complains of a great deal of nausea and vomits at times, also of a crampy pain across the epigastric region. Constipated, insomnia and anorexia.

R. *calc. phos.*, 3 x, *colo.*

April 14.—Frontal headache and pain across the umbilical region. Sleeps very well.

April 18.—Died.

Autopsy, held April 19, at 2 p. m., about 28 hours after death. Rigor mortis well marked and the body extremely emaciated. The chest was nearly cylindrical, and the abdominal walls excessively retracted (see history above). Height five feet six inches; head, 21 inches; chest, 33; abdomen, 23.

Heart: 12 ounces. Normal, except slight thickening of the cusps of the mitral and the tricuspid valves.

Aorta: Evidences of an old endo-arteritis in the vicinity of the left coronary artery, and quite a large calcareous plate in the middle third of the arch of the aorta.

Right lung: 28 ounces. Everywhere adherent to the costal pleura. Upper lobe edematous and congested. Middle and lower lobes presenting almost complete atelectasis. All the lobes showed a slight degree of emphysema immediately beneath the pleura.

Left lung: 19 ounces. General condition the same as in the right lung. Very little crepitus, though both lungs floated in water.

The bronchial tubes showed evidences of chronic bronchitis, and those of the right upper lobe contained considerable colorless fluid from the edematous condition.

Oesophagus: In the oesophagus was found a tumor, embracing the whole circumference from a point opposite the bifurcation of the trachea to within half an inch of the cardiac orifice of the stomach. Both above and below this mass the oesophagus was contracted, particularly below, and the lumen between these constrictions was enlarged by actual loss of tissue. The mucosa was totally destroyed and presented a honey-comb appearance. Large shreds could easily be detached by simply rubbing the finger over the surface, because of the necrosis and degeneration which had taken place. In the upper third of this section, the infiltration only extended to the muscularis, while, lower down, it had destroyed that structure, and was confined merely by the adventitia or surrounding connective tissues. The substance of the new formation presented a semi-gelatinous consistency, and was clearly mucous cancer or *cancroid*. Throughout the whole extent of this implicated portion of the oesophagus there was great thickening of its walls, causing them to be two or three times their normal thickness. The constriction below caused it to form a dilated sac, and perhaps caused the aversion to food evinced by the patient. The lymphatic glands and vessels of this neighborhood were not implicated, and the glands only showed the usual pigmentation and non-specific hypertrophy, such as is so

frequently found in this region. Just above the cardiac orifice were two small oval ulcerations extending through the mucosa.

Stomach: The stomach was normal in size, and contained a small quantity of partially digested ingesta. The mucosa showed evidences of chronic gastritis of a rather low grade, and some venous congestion. Just below the cardiac orifice, about half an inch from it and posteriorly, was found a tumor the size of an English walnut, lying entirely outside of the organ, and intimately connected with its serosa. Its situation was such that it produced partial stenosis by direct pressure—it lying between the stomach and the hard unyielding lateral border of the body of the vertebræ. On section, it was found to be primary *medullary carcinoma*. The lymphatic glands near it showed the characteristic carcinomatous infiltration.

Small intestines: Enteritis chronica developed throughout, especially in the lower half of the jejunum, and most intense in the ileum. The venous congestion was such that the vessels presented a condition which could almost be called varicose. There were no ulcerations or other lesions.

Large intestines: Very slight degree of congestion of the caecum and ascending colon. The remaining portions of the large intestines were normal.

Supra-renal capsules were nearly twice their normal size, and the pigmentation of the zona reticularis was excessive.

Right kidney: six and one-half ounces. Capsule non-adherent, except over the large cyst described below. Amyloid degeneration quite marked in the cortex and cortex corticis. A cyst, as large as a small hen's egg, containing clear, transparent, yellowish fluid (urine), with perfectly organized walls, was found at the inferior anterior aspect of the organ, and numerous small cysts and cicatrices scattered throughout the cortex and cortex corticis.

Left kidney: four ounces. Same as the right, except the absence of any large cyst.

Liver: 44 ounces. The liver was pressed away up under the diaphragm and all out of shape. It was exceedingly thick, and lay almost entirely on the right side, very little of it crossing the median line. Its substance friable and highly pigmented throughout the whole lobule, showing the direct result of the lesion noted in the small intestines. Brown atrophy.

Spleen and pancreas normal.

SURPRISING THE URETHRA.—“In urethral stricture, I have,” says M. Diday, “in order to avoid confounding it with a spasm, and to overcome this, if it exists, an infallible method. When the end of the sound is in contact with the coarctated portion of the canal, I suddenly put the following question to the patient: How long is it since you have been with a woman? If it is a simple spasm the sound immediately enters.”

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"A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the ONLY ACKNOWLEDGED RIGHT of an individual to the exercise and honors of his profession."—Code of Medical Ethics, Amer. Med. Ass., Art. IV., Sec. I.

Our practice is not "based on an exclusive dogma, but on the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

Hæmophilia.

THE death of Prince Leopold has directed the attention of the profession to the hemorrhagic diathesis with which he was probably born, and which, without doubt, was the principal cause of the apoplectic attack which terminated his life.

We find, in an early volume of the *Medico Chirurgical Transactions*, an interesting pathological description of this trouble, with illustrative cases, by Dr. Kidd. The disease is generally hereditary, is characterized by a tendency to immoderate bleedings and to swellings of the joints, which are often found full of blood. The trouble is generally confined to the males of a family, but genealogical records show that sisters of bleeders, showing no sign of bleeding themselves, become mothers of boys who are bleeders like their uncles, and, strange as it may seem, fathers, though bleeders themselves, are less likely to transmit the trouble to their children than mothers of a bleeding family, but who are not themselves bleeders. The disease is not common, although cases are occasionally met among all races. Dr. Kidd noticed in several cases of death from this trouble a distinct degeneration of the muscular fibres of the middle coats of the arteries, also some less distinct changes in the buccal epithelium. The epithelial cells lining the small arteries, capillaries and veins of the mouth, had undergone great proliferation, some of the small veins being blocked by this process, which had also

affected the vasa vasorum of the aorta and the vena cava.

The first symptoms of trouble are often noticed in dentition, but sometimes are not apparent until later in life. The bleeding is usually capillary, and death may occur from cutting the teeth in dentition, during the pressure of the tongue, or extracting a tooth. Besides superficial bleeding, there is liability to internal hemorrhages from the lungs, bowels, and into the brain. There are three well-marked degrees of haemophilia. In the first, the swelling of the joints is well-marked, as is also a tendency to every form of hemorrhage. In the second degree, spontaneous hemorrhages from the mucous membrane are also observed. The third degree is most common among women and in old age, and shows itself only by spontaneous ecchymosis.

To the careful physician, all these symptoms, as those indicating other forms of constitutional troubles, are helps in deciding the future life-work of his patient. In a hemorrhagic diathesis, violent exercise in which there would be liability to strain or bruise would, of course, be prohibited, while in another condition of the system just that kind of work would be most advisable.

A careful development and nutrition of every part of the system is often more essential than drugs, and can better be produced by care of diet and general exercise than by continued medication.

A student, tall, thin (recently married), in the first year of his theological studies, was advised by his physician to give up what he had looked forward to as a life-work, and for which he was mentally every way qualified, because of great nervous exhaustion. At our suggestion, he placed himself in the hands of a trainer, who put him through a course of exercises in fencing, boxing, and walking, with which he combined bathing and judicious manipulation. The result was physical development, increased strength, and an ability to do his full quota of mental work. A young man, pursuing his medical studies, informs us there is twitching of the muscles about the eyes, and that, yesterday, he fell down in a fit. He is anemic, with cold hands and feet, and inaction of the lymphatic system. A sedentary life, in this case, would soon end in death. He is advised to discontinue his studies, enter a gymnasium under careful instruction, and live in the open air. When he

enters his profession it will be to practice it in the country.

The habit is too common in our profession of giving too much attention to drugs and too little to constitutional peculiarities, hereditary influences and hygienic laws. In this way temporary relief is gained and the pocket filled, but the physician fails to do his whole duty unless he marks out a course of living which leads to increased mental and physical strength.

IMPROVEMENT IN VACCINE.

DURING the past six months, from time to time, facts have been brought to our notice that have demonstrated that a few industrious and self-sacrificing members of our profession have been steadily working to produce an improved article in vaccine-lymph. They have selected an auspicious time. For never in our history has this city and country been so free from small-pox as at present. These investigators have demonstrated in the laboratory that vaccine can be produced with certain powers that can be ascertained beyond a doubt to be present, or absent. If present, the result, except where constitutional idiosyncrasy prevents, can be prognosticated with certainty. They selected Powell & Lealand, of London, England, and that firm has made for them a microscope and its accessories which those experts who have tested it say is the finest and most accurate in its performances that has ever been manufactured, either in this country or in Europe.

Their purpose now is to endeavor to render practical the results of their laboratory work. We are informed that prominent capitalists have looked upon the subject as humanitarian, and have accorded their support in such a substantial manner that a suitable farm and all the fittings to insure success have been selected. To facilitate this great object, "The Ibex Company" has been incorporated, with ample capital, and men at the helm who will not fail to keep in view the noble and scientific purpose of this work. Vaccination is a subject of public health, to which nothing can be paramount. It strikes into the tenderest feelings of all classes. No amount of prejudice can smother the appreciation of its blessings by the public. To rich and poor alike, it comes in times of danger from the most terrible of all diseases, a cer-

tain protector. What, then, can equal the demand for its purity and certainty?

The expense of producing a trustworthy quality of vaccine lymph is great. This has been one drawback to the article of general commerce being of a superior quality. To secure the greatest number of charged points from the fewest calves, kept at the smallest expenditure, has been the problem to be solved by the general producer of this lymph. This ought not to be. Quality and trustworthy lymph should be the aim. Those unable to procure the best should be assisted by the public purse. The experience of every sanitarian will justify the statement that the visit of every epidemic of contagious disease costs every city of the size of New York, Philadelphia, or even Boston, several millions of dollars. As a problem involving public economy, it should be strongly advocated to neglect no proper precaution to prevent such a visitation. The educated public need no law to compel their attention to facts that have been clear for many years. Nevertheless, immunity begets a certain amount of hardihood, and this may increase to such a reckless disregard of threatened danger as to cause the public to close its eyes and refuse to take those precautions which past experience has proved to be wise. Parents put off having their children properly vaccinated until the law compels action, to enable them to attend school. Inspections become lax. Other subjects engross the attention of boards of health. Until the inevitable epidemic is upon us we refuse to believe it can come at all. Then all is haste and confusion. If it be small-pox a demand for any article called "vaccine" becomes so active that a large trade is established forthwith. Whatever can be bad from using impure and untrustworthy vaccine, appears. Prejudice increases because of these results; but if the danger be imminent, fear of small-pox overcomes every other consideration. Have we not all seen this enacted over and over again? Is it not better, wiser, more in accordance with every tenet of our profession, to adopt precautionary measures "while the cloud is no bigger than a man's hand," and by upholding every honest effort to benefit humanity, to avert danger, with every means in our power? We think so, and applaud every effort to give our profession a quality of vaccine, trustworthy and certain as it can be rendered by care and scientific tests, and we trust that the good work may go

on, and methods be developed that will continue to keep from our hearthstones such a loathsome disease as small-pox.

STATISTICS.

DR. AMBROSE S. EVERETT, in his report of his year's work as County Physician of Arapahoe County, of which the city of Denver is the county seat, gives some interesting statistics. The year ending April 1, 1884, during which the county hospital and the poor were cared for by Dr. Everett, of the New School, the death rate was fifty per cent. less than the preceding year, when the Old School was in power, notwithstanding it was enjoying the services of the combined talent of the Denver Medical College.

The statistics of the New York State Insane Asylums are equally worthy of note. From the annual report of the State Board of Charities we learn the percentage of recoveries in the State Lunatic Asylum at Utica, Hudson River State Hospital, Buffalo State Asylum, for the year 1883, was 25.37, and of deaths 6.49. The percentage of deaths in the State Homopathic Asylum for the Insane, at Middletown, for the same year, was 4.39, and of recoveries 40.59.

The great charity hospitals in New York are Bellevue, Charity Hospital Blackwell's Island, and Homopathic Charity Hospital Ward's Island. All are under the Board of Charities and Corrections, all draw their food supplies from the same store house, all receive the same class of cases, they being divided, as they present themselves, pro rata, to the number of beds. Bellevue being in the city, a larger number of emergency cases are sent there than to the other hospitals. A comparison of some of the facts connected with the different institutions may be instructive. In 1876, the second year of the existence of the Homopathic Charity Hospital, Ward's Island, it treated 3,077 patients, with a death rate of 6.07. The cost of liquors was \$36, and of drugs \$1,575.6. In 1880 there were treated 4,231 patients, with a death rate of 5.22, a cost of liquors of \$194.90, and of drugs \$1,620.36. Bellevue Hospital treated, in 1876, 5,658 patients, using in liquors \$2,672, and in drugs \$11,401.59, with a death rate of 12%. In 1880 there were treated 8,659 patients, at a cost in liquors of \$2,455.59, and of \$11,732.23 in drugs, and with a death rate of 12%. Charity Hospital, Blackwell's Island, in 1876, treated 8,621 patients, at a cost in liquors of \$2,-

862.75, and of drugs \$10,378, with a death rate of 12%. In 1880 the same hospital treated 7,045 patients, at a cost in liquors of \$2,352.24, and in drugs \$12,386.40, with a death rate of 5.32. These figures are taken from the published reports of the Commissioners of Charities and Correction.

To complete the picture and enable us to make a just comparison, we should have a hospital filled with the same class of cases in which neither liquors or drugs should be used, the sole reliance being placed, except in surgical cases where the knife would be required, upon pure air and water, nutritious food adapted to each case, and a careful observance of established hygienic rules.

To what can we attribute the very marked and striking difference in the results obtained in the two schools in institutions, subject to the close scrutiny of the same heads of departments, in which precisely the same class of cases are treated? Does not the difference in results arise, in part, from the fact that the Old School direct their principal attention to diagnosis and the determining of precise pathological conditions, leaving treatment to general principles, and these general principles applied with the erroneous idea that drugs cure disease. The New School, on the contrary, equally careful in diagnosing disease and determining pathological conditions, and equally familiar with the drug action of the remedies prescribed and their palliative uses, see in them also another action, an action reached long before their full toxicological influence is obtained, and which they seek to utilize in aiding the system to free itself from morbid influences so that the vital forces are enabled to exert their influences in the right direction. Drugs and hygienic rules are simply aids to nature, and should work in harmony with its laws.

The New School then, with quite as minute acquaintance with pathology, hygiene, and the toxicological action of drugs as the Old School, have pushed their therapeutical inquiries still further, and while perfectly free to use drugs for their mechanical, toxicological, or palliative action, if they deem such action wise, they attach the greatest importance to a careful individualization of cases in which hygienic laws, food and drugs shall all work in harmony with nature in its efforts to gain the mastery over disease and rule the system in health.

In the treatment of the insane, a careful study of

conditions, surroundings like those of a pleasant home, carefully selected food, drugs not to stupefy but to aid nature in its recuperative work, and general kindness of treatment, are found to work better than Utica cribs, harsh restraint and violent medication. In the Middletown asylum not an ounce of *chloral*, *morphine* or the bromides have been used since the organization of the institution, and restraint is seldom found necessary, and when used is of the simplest kind. The result of the principle which governs the treatment is seen in the large list of recoveries and the very small death rate.

We have stated a few simple facts, drawn from public records, open to all. Is there any reason why principles which have proved so beneficial may not be utilized by all, and the clannish sectarian feeling of the past give place to one more in consonance with what should be the spirit of the healing art?

ARMY HYGIENE.

THE lecture of General Viele on "Camp and Garrison Sanitation," delivered recently before the Military Service Institute, has awakened new interest in this important subject. An examination of the statistics will astonish one at the reckless stupidity with which hygiene is treated in the construction of forts, barracks and military posts, the health of the troops being sacrificed to the fitness of the site and the completeness of the defence. It is said that nearly all the military posts in this country are in an unhealthy condition, and it is probable that they will remain so for some time to come, or until the powers that be can be made to appreciate its importance and character.

Men cannot continue to live in dark, damp, unventilated vaults, for any great length of time, with impunity, and in selecting a site for this purpose due regard should be paid to such questions as the existence of malaria, the condition of the soil, the facilities for drainage, the character of the water supply, etc., etc.

General Viele has exposed many serious evils, which demand urgent and prompt attention on the part of those responsible for their existence, and steps should be taken at once to put a stop to that sacrifice of human life, which ignorance and carelessness have allowed to reach to so enormous proportions.

No efficient plan of reform will be complete without the co-operation of the engineering skill with that of the medical department, and we hope and trust that General Viele's effort will be rewarded by an attempt, at least, on the part of the proper authorities in the direction indicated.

TREATMENT WITH DRUGS.

SOME physicians are so sanguine respecting the action of drugs, that they ascribe every change in the symptoms of a case to this influence only. The true physician does not depend upon drugs alone in the treatment of the sick, and oftentimes patients will be much better without them.

We have no doubt many recoveries take place in spite of our drugs! We have seen numerous cases of dry hacking cough yield to a dose of *saccharum*, as soon as the glands of the buccal cavity had been induced to moisten the parched mucous membrane, which was the exciting cause.

If our sugar had been saturated with some medicament, the drug and not the vehicle would have had the credit. Physicians, as a rule, are too ready to recognize wonderful drug action, and to mislead others by their imaginary reports. It is in consequence of this susceptibility that the *Materia Medica* has become encumbered with *débris*, so that it is difficult for a novice to distinguish the wheat from the chaff. The strife of sect which has for its dependence a theory, is also a demoralizing influence, because the support of what one considers a principle will be fought for at all hazards.

The profession in general is profoundly ignorant of the first principles of hygiene, which should be the foundation of a medical education. How can we expect to make people well, when we have so little idea of what makes them sick as to allow a cause to remain which could be just as well removed?

The natural tendency of the human mind is to hobbies, and this habit warps the judgment to such an extent that justice is defrauded, and truth suffers to an alarming extent.

Our object in writing this article is to urge upon the whole profession the importance of being less dogmatic, less theoretical, and less visionary, and of cultivating that noble attribute, charity, to a greater extent. Let us try to become physicians in the fullest

sense of that word. Then we shall not be bigots, neither shall we be too sanguine or not sanguine enough, and eccentricity will be unknown to us.

Everything in nature has a place, and it is our duty as physicians to properly adapt such agents and influences as come within our sphere. Then we shall not assert that any particular principle is applicable under any and all circumstances, but we shall so individualize all means at our hand, that the greatest good will be accomplished.

Let us only insist upon such views as can be appreciated by many, other than ourselves.

There is enough in the world that we can all agree upon, to keep us united as common workers, and it is greatly to our injury in every respect to be divided into sects by non-essentials.

A MODEL HOSPITAL

THE Hospital of St. Denis, Paris, a model of its kind, is thus described in *The Sanitary Engineer*:

The total number of beds for which provision is made is 166, which gives a superficial area of site per bed 1,675.95 square feet.

The buildings are arranged in three parallel lines or groups, running east to west, and between each of these groups is a wide, open space. Each building is entirely separate and distinct from the building next adjoining it, so that not only is there no connecting corridor or passage-way between the respective groups of buildings, but the connection between the individual blocks composing the groups is entirely severed.

The entrance is placed at the centre of the southern boundary. On either side of a spacious court-yard are buildings of two stories in height; that on the east containing the porter's lodge and kitchen offices on the ground floor, with the residence for the nursing community above; that on the west containing the accommodation for the medical staff, with the dispensary, etc. These two are the only buildings of more than one story in height.

To the east and west of this central group of buildings are two blocks of similar size, the one on the east being devoted to aged women, with two beds for lying-in cases; that on the west to aged men, with two beds for chronic cases.

The long line of buildings which occupies the central axis of the site is occupied as follows: Commencing at the east is a double pavilion containing two wards and day-room for female medical patients, and two rooms of two beds each for sick children, and projecting from one end of this block is the bath house.

The next block contains the female surgical ward, with an operation room and day room, with two similar blocks for male surgical patients; the male medical block is identical in all respects with the female block.

To the north of the male medical block is the bath house. The baths are in each case very complete, comprising needle, shower, vapor and medical baths.

Northward of the male bath house is the laundry, which,

by reason of the fall of the ground, is at a much lower level than the ward pavilions.

The small group of buildings at the northern angle of the site are the infectious wards, the chapel and the mortuary and post-mortem room.

The ward pavilions throughout are one story in height, and have in every case an open space or basement beneath, about eight feet in height. This space is entirely unenclosed, save by the piers, which are necessarily constructed to carry the walls above. The ground all around is sloped away at an angle of forty-five degrees, and thus, while the wards are effectually raised above all chance of contamination by ground air, a thorough circulation of air all around the building is insured, and the stagnation of air liable to occur in the angle formed by the ward walls and the ground is prevented.

The wards are all provided with wide balconies, on which, in favorable weather, the patients are wheeled in their beds if not able to sit up.

Internally, the wards are constructed on the system devised by M. Tollet, an engineer, who has devoted much time to improving the construction of hospitals and barracks, with a view especially to their better and more efficient ventilation.

The peculiar feature of M. Tollet's system is the sectional shape of the wards. The form he adopts is that of a pointed arch, the height of the springing being in a ward of 26 feet in width, about six feet from the floor, and the apex about 24 feet above the floor. At the apex are provided certain outlet ventilators, which are in communication with louvre ventilators on the ridge of the roof. M. Tollet claims for his system, that by getting rid of the flat ceiling and its consequent angles, and by adopting an easy curve from floor to apex, he simplifies and induces ventilation, and in a great measure prevents accumulation of ward dust. In carrying out the system in the St. Denis Hospital, M. Laynaud has carried it still further than its author, for he has returned the ogival curve on the end walls of his wards instead of making them vertical.

The closets are in every case cut off from the wards by passages which are merely roofed over, the sides being entirely open to the weather.

The wards are warmed partly by stoves and partly by *calorifères* in the basement, from which hot air is passed into the wards by way of flues opening into the wards.

Apart from peculiarities of construction, it is worthy of note that this hospital comprises within its own limits accommodations for every class of disease except lunacy, and that the method by which such an arrangement is rendered possible is by subdividing the hospital into a number of detached ward blocks, which are in effect distinct hospitals.

For a small hospital, such as the one we have described, the plan is admirable in every way.

THE CODE AND HOMEOPATHY.—It is a fact, says the *Medical Annals: Journal of the Medical Society of the County of Albany*, that there is among homeopaths a wide-spread rejection of the Hahnemannian infinitesimal. It is also a fact that there really are persons in our county societies and in the State Society who believe (although others regard their views as delusions) that the therapeutic indication of certain drugs is to meet symptoms resembling those which result from the physiological action of those drugs, while they wholly reject the so-called dynamized infinitesimal dose. As a consequence of these two facts there is a third fact, which is, that, instead of the former diametrical dissimilarity, there is now increasing correspondence in the *materia medica* and dosage actually employed by some members in the opposing schools of medi-

cine ; hence, between such persons on the border lines of the two camps a degree of affiliation is irresistible.

With this general modification of medical ideas, is it a wonder that, in our State, the last year has witnessed the affirmation of the liberal code of ethics ? The not uncertain voice of the Empire State has shaken the world.

BIBLIOGRAPHICAL.

DISEASES OF THE RECTUM AND ANUS. By Charles B. Kelsey, M.D., New York. Wm. Wood & Co., 1884.

One of the best works in *Wood's Library of Standard Medical Authors*, for 1883, was a volume by the same author and upon the same subject as that now presented to the public. Taking his previous work as a base, the author has rewritten those parts which seemed defective, adding to them the results of riper experience. The typography of the work is excellent, and the two chromo-lithographs and the one hundred excellent wood cuts fully illustrate every department of the subjects treated. The author discusses in a clear and practical manner the physiology and anatomy of the rectum ; congenital malformations, inflammation, abscess and fistula, hemorrhoids, prolapse, rectal hernia ; non-malignant growth, ulcerations and strictures ; cancer, impacted faeces and foreign bodies, pruritus ani ; spasms of the sphincter, proctalgia, hemorrhage, rectal alimentation, etc. The treatment is mostly surgical, and includes a description of the most approved instruments and manner of operating.

A YEAR-BOOK OF SURGERY FOR 1883. Edited by Charles H. Knight, M.D. New York : G. P. Putnam's Sons, 1884. Pp. 198.

As the title indicates, this volume is a retrospect of current surgical literature, and the text is confined to those articles which contain some point of special interest. The book is uniform with the "Year-Book of Therapeutics," and the two volumes comprise a most important addition to our works of reference, which will be appreciated by all who attempt to keep abreast with the times. The cost of these books is only \$1.50 each, and we sincerely hope that their publication may be continued from year to year.

CATARRHAL DISEASES OF THE NASAL AND RESPIRATORY ORGANS. By G. N. Brigham, M.D., Grand Rapids, Mich. Second Edition. New York : A. L. Chatterton Publishing Co., 1884. 12mo. Pp. 112.

This little volume is devoted chiefly to the medicinal therapeutics of the intractable affections of which it treats. The text is concisely and intelligently written, is richly interspersed with clinical reports, and the work will be found serviceable in that differentiation of drug effects so necessary to accurate prescribing. The publishers have looked well after the physical part of the work.

DRUGS AND MEDICINES OF NORTH AMERICA is the title of a new quarterly journal devoted to the historical and scientific discussions of the botany, pharmacy, chemistry and therapeutics of the medicinal plants of North America, by J. U. & C. G. Lloyd. 180 Elm Street, Cincinnati, Ohio.

The first number contains a description of clematis virginiana, thalictrum anemonoides, anemone nemorosa, anemone pratensis (*American pulsatilla*). All of the plants are illustrated by engravings, and the letter-press is prepared with scientific care and accuracy.

NORTH AMERICAN REVIEW.—Justice William Strong contributes a forcible article to the May number, on our naturalization laws ; Edwin P. Whipple offers a candid judgment of Matthew Arnold as a thinker and as a man of letters ; R. A. Proctor, a most interesting paper on "A Zone of Worlds" ; "The Railway and the State" is discussed by G. L. Lansing ; "Illusions of Memory," by Prof. Osborn, and the "Working Men's Grievances" are jointly discussed by W. G. Moody and Prof. Laughlin.

CORRESPONDENCE.

OUR LONDON LETTER.

MESSRS. EDITORS :—It is not often that the endowed lectureships produce anything so good as the Gulstonian Lectures of the present year. These lectures are given annually at the Royal College of Physicians. They consist of a course of three lectures, and a different lecturer is appointed each year. Dr. Clifford Allbutt, of Leeds, is lecturer for this year, and his lectures have already been delivered and published in the journals. Dr. Allbutt has been known for some time as one of the most able, original, and enlightened members of the profession, not merely in the provinces, but in the country ; and his masterly exposition of the neuralgic affections of the abdominal viscera, which forms his present theme, will raise his already high reputation. The lectures will, doubtless, be published afterward in book form, and I strongly advise your readers who may not see them in the journals to become possessed of them. A more valuable series of cases has rarely been put together. As we might suppose, arsenic figures largely in the treatment of these affections, but the idea of its "tonic" and "anti-neuralgic" properties has become so rooted in the orthodox mind that we can hardly be surprised that Dr. Allbutt has not discovered that its curative action is really homeopathic.

One remarkable feature of Dr. Allbutt's first lecture was a bold but much-needed attack on gynaecologists and many of their ways : "A neuralgic woman seems thus to be peculiarly unfortunate. However bitter and repeated may be her visceral neuralgias, she is either told that she is hysterical, or that it is all uterus. In the first case she is comparatively fortunate, for she is only slighted ; in the second case she is entangled in the net of the gynaecologist, who finds her uterus, like her nose, is a little on one side ; or, again, like that organ, is running a little ; or it is as flabby as her biceps, so that the unhappy viscera is impaled upon a stem, or perched upon a prop, or is painted with *carbolic acid* every week in the year except during the long vacation when the gynaecologist is grouse-shooting, or salmon-catching, or leading the fashion in the upper Engadine. Her mind thus fastened to a more or less nasty mystery, becomes newly apprehensive and physically introspective, and the morbid chains are riveted more strongly than ever. Arraign the uterus, and you fix in the woman the arrow of hypochondria, it may be for life." It would be well if these words were prefixed to every work on gynaecology.

Subscribers to the *British Journal of Homœopathy* will have presented to them in the forthcoming number a translation by Dr. Dudgeon, of Hahnemann's first medical work, written when he was still practicing "pre-reformation" physic. It is a work of great interest, and reveals the great mental acuteness and originality of the future discoverer of homœopathy, as well as his deep dissatisfaction with the ordinary practice of his day. Of course he recommends bleeding in certain cases, and salivation ; but in those early days—the book is just one

hundred years old—he had learned that the extremes to which these measures were pushed was not necessary; and he lays very great stress on matters of diet and hygiene. The cases he reports are depicted with the graphic skill of a master-hand. In the following number of the *Journal*, Dr. Dudgeon hopes to give translations of other works by Hahnemann that have never appeared in English before.

A most interesting work has come from Germany—a history of homeopathy by Dr. Ameke, of Berlin. Dr. Ameke has, with immense industry, gathered materials for his work from all reliable sources, and has put them together in a way that has made all lovers of homeopathy and justice his debtors.

We have heard so little of our German brethren of late that we began to fear their enthusiasm was dying out. Dr. Ameke has redeemed their character by this, the most important work on homeopathy that has appeared for many a day.

At last the germ pathologists are happy! They have succeeded in—annihilating forever and ever the cholera germ? Oh, no; much better than that! They have succeeded in—giving a pig the cholera! The hero of this triumph, if we are to believe the first reports, is Mr. Vincent Richards, of Calcutta. The germ which Koch has long cherished so fondly, and praised so highly as the germ—or bacillus—of cholera, was, it is said, injected into this happy—this immortal—pig, and, after a struggle of three hours, its martyr spirit departed amidst the rejoicings of a scientific world above, to report the latest glory of the “healing science” to an expectant scientific world below!

The delight of the *Daily News* knew no bounds. It devoted a leader to singing the praises of Professor Koch, Mr. Vincent Richards, the cholera germ, and the historic pig. It was rather too cruel to cast any reflection on the achievements of these worthies; but Dr. Dudgeon found in his heart to do it, as witness the following letter which appeared in the *Daily News* the next day:

THE CHOLERA GERM.

To the Editor of the Daily News.—In 1831 the illustrious Hahnemann published a pamphlet “On the Mode of Propagation of the Asiatic Cholera,” in which he suggests that the contagious matter of cholera consists of “excessively minute invisible living creatures,” and his treatment, which was so successful in every epidemic of cholera that has invaded Europe, consists mainly in the free use of camphor, which he held to be the poison for these living germs. To insure the complete destruction of these minute organisms—which correspond to the cholera bacilli of Koch—the patient was to get a drop of strong spirits of camphor at least every five minutes, camphor spirit was to be well rubbed into his skin, an enema of two teaspoonfuls of spirits of camphor in half a pint of warm water was to be administered, and camphor was to be distributed in the form of vapor through the room by placing some lumps of it on a hot iron and allowing them to evaporate. The researches of Koch corroborate the views of Hahnemann as to the cause of cholera; he has not yet addressed himself to the cure of the disease, but as that is the question that most concerns the patient-world, it is fortunate that they have not to wait for the discovery of the cholera bacillicide, as that has been already discovered by the genius of Hahnemann. And the statistics of every epidemic in Europe testify to its efficacy.

Your obedient servant,

R. E. DUDGEON, M. D.

63 Montagu Square, London, March 26.

Mrs. Weldon has just given a salutary warning to “mad-doctors,” who have private lunatic asylums under their control. She brought an action to recover £10,000 damages from Dr. Forbes Winslow, on whose certificate she was confined in the asylum under his superintendence, six years ago. She lost her case, since she could not prove that a “trespass” had been committed, or that the doctor was actuated by “malice”; but she convinced the judge and most other people that she was not mad, and never had been. Probably Dr. Winslow himself

has doubts about his certificate now. Mrs. Weldon conducted her own case. Here is a specimen of her examination of Dr. Winslow (the doctors had made a great point of her hearing “voices,” which it was admitted that Swedenborg and John Wesley had done):

Mrs. Weldon—“Do you consider Mr. Swedenborg was crazy?”

Dr. Winslow—“Yes.”

Mrs. Weldon—“And John Wesley?”

Dr. Winslow—“I never examined him.”

Mrs. Weldon—“Then you did examine Swedenborg?” (Loud laughter.)

Another veteran has fallen from the ranks of the British homeopaths. Henry Ridwood Madden died at Bath, on the 29th of February, in the 66th year of his age. Since he was laid low by an apoplectic seizure in 1871, Dr. Madden has lived in retirement, but the works left behind him during the brilliant but too brief period of his active life have served to keep his name honorably familiar with younger men who never saw his face. He was educated at Edinburgh and Vienna. He settled in practice at Brighton, in 1846, and soon attained a position of the highest eminence. In 1863 symptoms of ill-health compelled him to relinquish work for a time, and he went to Melbourne, where his health became so much improved that he was enabled to engage in practice. In 1866 he commenced to practice in London, where he remained until the stroke which permanently disabled him, and robbed homeopathy of one of its brightest ornaments and ablest exponents. His last medical work was an address prepared by him to be read at the Homeopathic Congress, held at Oxford, in 1871, of which he was elected president the previous year. It was read for him by Dr. Hughes.

Yours fraternally, JOHN H. CLARKE, M.D.

15 St. George's Terrace, Gloucester
Road, London, S. W., Mar. 31, 1884.

ASTIGMATIC APPARATUS.

MESSRS. EDITORS: In common with Dr. Boyle and others, I have frequently felt the inconvenience of leaving my chair to adjust the test lines while examining an astigmatic eye, and was much pleased with his electric astigmatic apparatus. As I did not feel like spending ten dollars upon it, however, I devoted portions of two days to constructing a less pretentious instrument, worked by string instead of electricity. This has proven so satisfactory, that I am led to believe it may be of interest to your readers.

With a brace and bit I bored holes in the sides of a starch-box, through which I ran a wooden axle whittled at one (the projecting) end, so that a flat spool (such as comes with embroidery silk) may be fitted on as a cap. A couple of beheaded tacks, driven into the axle, keep it in place, and a brad in the middle serves as an attachment for the string, which, after several turns around the axle, leads around an upright end to my chair. Three or four turns of brass spring wire No. 24 are fastened to the axle and to the box, and are so arranged as to turn the axle in the reverse direction to the hands of a clock, when called into play after being wound up by pulling the string. A cardboard face, separated about an inch from the front of the box, bears a circle seven to eight inches in diameter, whose upper half is graduated in intervals of 15° from left to right, i.e., like the face of a clock. A central opening allows of the spool being slipped upon the axle. Fastened to the spool is a white cardboard disk seven inches in diameter ruled in India ink, with three parallel lines, each of which is 1.75 mm. wide and the same distance from its neighbor. To discern these at six metres

requires vision of 6/6; but as I have had amblyopic patients who could not be tested with such fine lines, I made three other disks to be substituted for the first, whose lines are respectively 2.62 mm., 3.5 mm., and 5.25 mm. broad, corresponding to visions of 6/9, 6/12, and 6/18.

Upon the principle of Snellen's test-types, each of these lines at six metres subtends an angle of one minute. Our mathematical tables give us .0002909 as the length of one minute in parts of the radius, and we can readily determine the proper breadth of each line by multiplying the above decimal by the distance of the eye from the apparatus.

JOHN L. MOFFAT, M.D.

BROOKLYN, April 12, 1884.

OBITUARY.

WILLARD PARKER, M.D., LL.D., the eminent surgeon, died in this city April 25th, of pyelitis, from which he had been suffering for some months, at the age of 84.

Dr. Parker was born at Hillsboro', N. H., graduated at Harvard in 1826, and in medicine in 1830.

He lectured for several years in various Medical Colleges upon Anatomy and Surgery, and in 1839 was called to the Chair of Surgery in the College of Physicians and Surgeons in this city, where he remained until 1870, retiring with an Emeritus professorship.

Princeton, about the same time, conferred upon him the degree of LL.D.

Dr. Parker's professional work was not in the limited field of a specialist, although he had his special preferences. When asked some time ago what these were, he replied: "Medical treatment and diagnosis as associated with surgical cases. If a man does not familiarize himself with different remedies and their applicability to certain special disorders resulting from surgical cases, he degenerates into nothing more or less than a butcher. It is the glory of the profession to save a limb. But that which I particularly regard as beautiful in its results and satisfactory in its issues is the cutting down for and ligating arteries." Dr. Parker performed the delicate operation of tying the subclavian artery five times. Once he tied this artery within the scaleni muscles, also taking the precaution to apply a ligature to the common carotid and right vertebral arteries to prevent regurgitation of blood, which was then done for the first time in this country. He was the first to point out a condition known as "concussion of the nerves," as distinguished from concussion of the nerve centres, which had previously been mistaken for a condition of inflammation. In surgery he introduced new operations as well as new methods. Among them are the operation of cystotomy for the relief of chronic cystitis, and the operation for the cure of abscess of the *appendix vermiciformis*. His method of operation in laceration of the perineum has in many cases proved of the greatest value. In the course of Dr. Parker's extensive hospital experience he became familiar with many complicated and unusual forms of accident and disease. In his first years in Massachusetts hospitals he saw many abnormal cases of tumors, with instances of remarkable surgery. Later, his earlier experience became of the greatest value, when in company with the late Dr. Wood he was appointed visiting surgeon to Bellevue. At the time of this appointment the condition of Bellevue, then an almshouse, was appalling. Political corruption had proved the curse of the institution. There was no medical supervision. Ignorant and dishonest overseers used their positions simply for their own base ends, and utterly neglected those under their care. The miserable

wretches who were imprisoned within the walls of Bellevue were left to fall sick and die without any interest in or sympathy with their welfare or attempt to supply their needs. Hero Dr. Parker and Dr. Wood did a noble work. New officers were appointed. Food and ventilation were cared for and improved. Outside interest was aroused, and the attention of the medical profession was drawn to the institution, which rapidly underwent a radical change for the better. For its subsequent prosperity, Bellevue Hospital is largely indebted to Dr. Parker's unflagging energies.

As a teacher Dr. Parker achieved the highest success. Personally he possessed the exquisite courtesy of the old school with a geniality which invariably gained for him the warm liking of his pupils. In his lectures he had the advantages of a dignified bearing and an agreeable and richly modulated voice, while, owing to his thorough mastery of his subjects, he was clear and concise in his statements, straightforward and logical in his development of his theme, fresh and original in his matter, and fully understanding the art of giving abstract principles a concrete application and riveting them by a timely illustration or anecdote. For over thirty years he lectured constantly, and never failed to invest with surprising interest the subjects of surgery and anatomy.

Dr. Parker left no treatises upon medical subjects. His time was so fully occupied with his lectures and the incessant demands of an immense practice that he was never able to add to the literature of medicine. Many of his most important operations have been reported for medical journals by others. All the capital and rare operations which come only to great surgeons he had performed with more than average success. After withdrawing from the college, in 1870, he devoted himself entirely to his practice. His rare preservation of mental and physical health enabled him to meet the demands of this practice at an age when most men entirely resign work. But in the last few years he was obliged to give up the more arduous portion of his professional work. Probably no physician in the city held a larger practice, and probably not more than one or two received larger professional emoluments.

TRANSLATIONS, GLEANINGS, ETC.

OUR readers will notice in our advertising pages an extract from the Philadelphia *Tagblatt*, which will interest those who have read the numerous statements regarding this controversy. If the statement in the *Tagblatt* is correct the point seems to be admitted that Eisner & Mendelson import Hoff's Malt direct from Johann Hoff, of Berlin, in the bottles which are exposed for sale.

PROGNOSIS IN CASES OF MENTAL DISEASE.—Sankey (*Liverpool Medico-Chirurgical Journal*, January, 1884), has tabulated the more important conditions which characterize the early stages of the incurable and curable forms of mental disease. The inquiry resolves itself into a determination as to (1) whether the case is one of general paralysis (incurable form), or (2) whether it represents an instance of ordinary insanity. By "ordinary" insanity is understood all curable forms of mental disease (except general paralysis).

The positive evidence bearing upon the question as to whether a given case of mental disease belongs in the category of curability or incurability, as above understood, may be broadly summarized as follows (when the attack is primary):

1. The mode of the invasion in ordinary insanity, in a primary attack, will be by melancholy. General paralysis, as a

rule, commences by the opposite rather, as by hilarity, busy occupation, absurd conduct, garrulity, and want of ordinary reticence on every subject.

2. In ordinary insanity the emotions alone are affected, as by depression and grief, sense of wickedness or being blame-worthy, morbid apprehension, as of ruin, injury, poison, loss of salvation, etc.

In general paralysis all the faculties are in a state of exaltation, the emotions, the intellect, and volitions being equally involved, and the conduct is wild and irrational.

3. In the melancholy or ordinary insanity the patient wishes for solitude. In general paralysis the patient rushes into all kinds of society.

4. In ordinary insanity the commencement of the symptoms is gradual, insidious, often obscure, and occurring in persons of quiet temperament. In general paralysis it follows very often upon some great mental shock, and almost suddenly, and occurs in persons of sanguine temperament and great activity of mind. The evidence contained in the history of the case should be examined both from a negative and positive standpoint.

As general paralysis is almost invariably fatal, it is evident that there can be no true second attack. It should, however, be borne in mind that the disease is liable, under certain circumstances, to remission of all symptoms. Such a remission may last for several years, giving rise to the erroneous belief that the disease, after all, is not a case of general paralysis.

Where we have to do with a secondary attack of mental disease, which has taken place after a period of apparently complete recovery, the probability of restoration is greater than in primary cases. At the same time, however, all things being equal, the prospect of a third and subsequent attack is greatly enhanced. This is particularly true where there is a persistence of the exciting cause, as in the puerperal condition. When the secondary attacks become progressively less severe the prospect of ultimate complete recovery is proportionately increased.

INJURIOUS EFFECTS OF STIMULANTS.—D. B. Gunn, M.D., Brandon, Miss., in the *Medical Brief*, says:—Some thirty years ago I was treating a negro boy for dysentery, and he had gotten so low that every hour I expected would be his last. I was then a strong believer in stimulants, and supposed I was keeping him alive with port wine. When I gave it to him, it would raise the pulse at the wrist, and when the stimulating effects of the wine had passed off, the pulse would go with it. I was staying at the house one night, expecting him to die before morning, and during the night the nurse came and reported that the boy's father had drunk up all the wine. The master sent eight miles for more wine; but in the meantime I gave the boy nourishing soup and plenty of sweet milk, and when the wine came, some time after breakfast, I found that the patient had a permanent pulse, and I suspended the wine to see the result. By night he was so much improved that I did not resume the wine, and the case was convalescent in a few days. From that day to this I have closely watched the effects of stimulants, and am thoroughly convinced that in nine-tenths of the cases where they are used, they do more harm than good. I have entirely discarded their use in disease.

PURPURA HEMORRHAGICA CAUSED BY QUININE.—The patient, a woman of 45, was attacked by fever. After two full doses of *quinine*, she was seized with headache, rise in temperature, prostration and bilious vomiting. On the next day she developed numerous ecchymoses upon the arms and the

right side of the neck. At the same time haematuria and metrorrhagia appeared. The symptoms soon subsided. Ten days later the patient had another febrile attack. *Quinine* was given again, and was followed by precisely the same symptoms as on the previous occasion. *Arsenic* was then used successfully in the case, and no further hemorrhagic phenomena occurred.—*El Siglo Medico, December, 1883.*

ALCOHOL vs. STRYCHNIA.—At a meeting of the French Society of Temperance the subject of the antagnism of *strychnia* and alcoholism was discussed. It would appear that while *strychnia* is capable of controlling the functional manifestation of drunkenness, yet it was contended that it had no influence for good over the effects of alcohol on the organic tissues. We understand from the report that the alcoholized individual when also strychnized did not appear intoxicated, but was nevertheless just as liable to, say, cirrhosis of the liver.

IMPORTANT DIAGNOSTIC POINTS OF POPLITEAL ANEURISM.—In a lecture on this subject, Dr. John Ashurst (*Medical News*, July 14, 1883) thus sums up:

1. Expansive pulsation.
2. Stoppage of the pulsation and lessened tenseness of the sac by compression of the artery above the tumor.
3. The suddenness with which the pulsation returns when the pressure is relieved.
4. The thrill.
5. The bruit.
6. The diminution of pulsation below the tumor.
7. The increase of pulsation on flexing the limb.

TOOTHACHE REMEDY.—A correspondent of the London *Electrician* gives the following as an instantaneous remedy for toothache: With a small bit of zinc and a bit of silver (any silver coin will do), the zinc placed on one side of the afflicted gum, and the silver on the other, by bringing the edges together, the small current of electricity generated immediately and painlessly stops the toothache.

A CENTENARIAN MIDWIFE.—A woman named Margaret Barry died recently at Kellavullen, County Cork, Ireland, at the advanced age of 100 years. A remarkable and probably unique circumstance connected with this woman was that she followed the calling of a midwife until immediately before her death.

SIMPLE REMEDY FOR COLIC.—Dr. A. Tepliashin recommends a thin stream of cold water from a teapot elevated from one to one and a-half feet over the abdomen, in cases of colic. He has seen it relieve pain when *opium* and *morpheia* failed.

DENTAL HYGIENE AT SCHOOL.—According to M. Galippe, dental caries is frequent in boys and girls preparing for examination, and may be ascribed to the excessive efflux of blood to the head. Others suppose that the brain makes use of the phosphates which ought to be employed in the formation and growth of the teeth. M. Harlan is of opinion that dental caries is most frequent in young people who work hard, and are very successful in their examinations.—*British Medical Journal*.

EPILOGUE.—It is proverbially difficult for young physicians to establish themselves in practice. The reason is that they do not advertise. The old doctors have been shrewd enough to render advertising a sin in a physician.—*Lowell Courier.*

GLYCERINE VS. ALCOHOL IN THE TREATMENT OF ACUTE FEBRILE DISEASES.—Dr. Mariano Semnola, in an article on this subject in *Bull. Gen. de Therap.*, remarks as follows: Although the usefulness of *alcohol* cannot always be doubted, on the other hand it presents grave objections to its general use, by its exciting action upon the heart and brain, which sometimes renders the pre-existing condition worse, and brings about a cardiac catastrophe due to exhaustion of the heart, consequent upon over-sustained excitement. This is not all. The gastric mucous membrane, already irritated, is made more so by the *alcohol*, and the digestion materially impaired. In consequence of this, I have entirely abandoned it in my practice, and I have searched elsewhere for a substance that might answer the same purpose without any of its drawbacks. I selected *glycerine* for this, because I considered its chemical constitution warranted the supposition that as a substitute for *alcohol* it would afford to patients better resistance against the exhausting action of the fever; my anticipations were soon crowned with excellent results.

I use *glycerine* diluted with water in the proportion of—*glycerine*, 30 grammes; *citric acid*, 2 grammes; water, 500 grammes; or lemon juice to flavor; mix. Of this I give about an ounce every hour.

My rule for beginning its use is when the temperature reaches 104° Fah.

Some time after the *glycerine* has been taken the quantity of urea diminishes, in some cases to the quantity of 10 grammes ($\frac{1}{2}$ liiss) in the twenty-four hours, but generally only to that of 6 or 7 grammes. Upon the suspension of *glycerine*, the urea immediately increases in amount.

BRYONIA IN RHUS POISONING.—Wm. C. Conant, of Montclair, N. J., writes to the *Scientific American* that, having lived for more than fifty summers in well-founded dread of any chance contact with *rhus toxicodendron*, he was led, four or five years ago, to try *Bryonia alba*. The tincture did no good, but *bryonia* in the third attenuation, as an antidote in alternation with *sulphur*, same attenuation, to relieve the itching and burning, one taken in the morning and the other at night, produced satisfactory results immediately. Since that time, fortified by an occasional prophylactic dose, he has looked on the malignant weed with impunity, the antidote used having overcome not only the poison but the constitutional susceptibility to its influence.

STEWED FRUIT FOR THE GOUTY AND DYSPSEPTIC.—Dr. Milner Fothergill recommends the use of stewed fruit in many instances of gout and dyspepsia. If about as much *bicarbonate of potash* as will lie on a shilling (English) be added to each pound of fruit, it will be found sufficient without the addition of sugar, to neutralize the acidity, and to bring out the natural sweetness.

THE TOTAL DESTRUCTION OF HUMAN BODIES.—M. Aimée Girard, having lately proposed at the Académie des Sciences, the destruction of the bodies of animals dying of virulent diseases by means of *sulphuric acid* (as their interment does not always secure from the danger they may cause), M. Régnard resolved to try the effect of this substance on the human subject. His experiments on the bodies of new-born infants and fetuses have been completely successful, and would no doubt be equally so if tried on the adult. To the body of an infant he adds about double its weight of the *sulphuric acid* of commerce, and after twenty-four or thirty hours of maceration, not a vestige of the body remained—

the decomposition having taken place silently and without any smell. Neither the microscope nor the test-tube can detect the slightest trace of the body, beyond the presence of some fat, *phosphoric acid*, and *nitrogen*. M. Régnard points out how easily a body may be made away with by means of a substance so easily procured, and suggests that some restrictions should be placed on its sale.—*Revue Méd.*, Dec. 1.

HEALTH EXHIBITION IN LONDON.—It is announced in connection with the closing of the Great International Fisheries Exhibition in London, that an exhibition will be held next year, under the same auspices, on matters relating to "Health—Bodily and Mental." The widest scope will be allowed, and the exhibits will include scholastic appliances, gymnasium, dress, articles appertaining to general questions of sanitation, etc. The place of exhibition will be London.

THE SALTS OF GOLD IN SYPHILIS.—M. Martineau, in a communication to the *Société de Thérapeutique*, has prescribed the following, in doses from one to three teaspoonsfuls daily:

B. Chloride of gold and chloride of sodium.....	aa 1 gramme.
Water	1,600 grammes.

Under its influence, old standing syphilitic ulcers, incurable by ordinary means, have taken on a healthy action and healed.

CHLORATE OF POTASSIUM IN ULCERATED EPITHELIOMATA.

—In fine powder, this is said to yield excellent results when dusted over the surface of ulcers and ulcerating epitheliomata. The surface should be cleansed, and the powder dusted thickly on twice a day. This, it is claimed, relieves pain and promotes healing.—*Canada Lancet*.

AN ACID SOLUTION OF THE HYPOPHOSPHITES.—In the *Phil. Medival Times*, Nov. 3, 1883, Dr. George Gerhard says: The objection to the syrups is their excessive sweetness, and their liability to cause indigestion. The solution prepared at my suggestion by Mr. Hayes, of the St. George Pharmacy, Philadelphia, and the formula of which I give below, is clear, slightly fluorescent, and pleasantly acid. It is a valuable tonic and stimulant, and is borne by the most sensitive stomach :

Calcii hypophosphit.....	
Potassi hypophosphit.....	
Sodii hypophosphit.....	aa gr. j.
Quininæ hypophosphit.....	
Manganesis hypophosphit.....	aa gr. $\frac{1}{4}$
Ferri hypophosphit.....	gr. $\frac{1}{2}$
Strychnina hypophosphit.....	gr. $\frac{1}{16}$
Glycerine	m iij.
Liq. acidi hypophosphit.....	m ij.
Aquam.....	ad. f. 3 j.

CURE FOR CRAMPS.—The simplest and best method we have ever known is a bandage above or below the knee—above being preferable. This acts by preventing the too rapid return of blood, and thus retaining it in the blood vessels, and keeping up the normal pressure.—*Pacific Medical and Surgical Journal*.

INSANITY IN THE UNITED STATES.—The Tenth Census gives some interesting and instructive facts relative to the increase of insanity in this country. The total number of insane in 1870 was estimated at 37,432, as against 91,997 in 1880, an apparent increase of over 160 per cent. This gives a ratio of one insane person to every 543 of the population, a much larger estimate than many observers will be willing to admit.

THE TREATMENT OF CICATRICAL STRICTURE OF THE OESOPHAGUS THROUGH A FISTULE OF THE STOMACH.—In the *Deutsche med. Wochenschrift* of October 24, 1883, Von Bergmann records the case of a man who suffered from fibrous stricture of the cardiac extremity of the oesophagus, the result of drinking lye, in which this operation was successfully performed. The stomach was opened on the 29th of January, and a large fistule established. At the expiration of one month attempts were made to reach the cardia with the fingers, at the same time that a probang was passed by the mouth, and, after several failures, a thick band of tissue could be distinctly felt between the probang and the finger. With the aid of an instrument constructed especially for the purpose, through the branches of which firm pressure was made from the oesophagus and the stomach upon the band, the latter finally sloughed, and the opening thus made was plugged with a bit of compressed sponge, armed with a strong thread for the purpose of withdrawal. After its removal, a bougie, thirty millimetres, or one inch and one-fifth, in circumference, was passed into the stomach through the mouth. The bougie was used several times a day, and the sponge every other day until April 25, when the normal size of the gullet was re-established. The dilatation was, however, continued until the middle of May, when a sound, twenty-five millimetres, or one inch in diameter, could be passed with ease. The introduction of the instrument was now entrusted to the patient himself, and Von Bergmann closed the fistule on the 21st of May. The man continued the use of the large bougie daily, and when he was exhibited at the meeting, on the 10th of October, his condition was all that could be desired, a cure having practically resulted.

ALCOHOL ON DIGESTION.—Buchner, in the German *Archives of Clinical Medicine*, reports the results of a series of experiments on the influence of alcohol on artificial and gastric digestion, as follows :

1. Alcohol by itself, up to 10 per cent., has no effect on artificial digestion.
2. Increased to 20 per cent. the process is lengthened.
3. A still higher percentage stops digestion entirely.
4. Beer has the same effect if used undiluted.
5. Likewise the red sweet wines, while white wine, pure, merely delays it.
6. In ordinary gastric digestion, beer appears to act unfavorably, even in small quantities.
7. Wine is the same.
8. When the absorbing and secreting functions of the gastric mucous membrane are impaired, alcohol completely checks the process of digestion.

HOW TO GIVE ALCOHOL IN DISEASE.—Dr. Richardson, of London, England, in a paper on this subject lately presented before the British Medical Temperance Association, maintained that the only true way of using spirits was to procure ethylic alcohol, and give it combined with water in doses to produce certain definite effects.

In an interesting discussion which followed, Dr. Drysdale said that alcohol should never be administered in the form of wine, brandy, whisky, beer, or any common form of spirits. These beverages were never scientific combinations ; they comprised all degrees of strength and purity, and their action on the body was unknown.

VERATRUM VIRIDE IN TYPHOID.—Nelson (*Archives of Medicine*, April, 1883) says he has given this drug in small

doses in every case of typhoid he has treated during the last ten years, and has not lost a case. He says it lowers the pulse and temperature, reduces the danger of haemorrhage to a minimum, and convalescence is frequently established at the end of the second week. His doses are one to two drams of the tincture every hour. *Veratrum viride* has been employed with success by practitioners of the new school in typhoid.

CORROSIVE SUBLIMATE IN THE TREATMENT OF DIPHTHERIA.—Dr. H. T. Hanks, (*N. Y. Med. Record*), has obtained better results in diphtheria from *corrosive chloride of mercury* than from any other remedy. He has employed it in doses of 1-160 of a grain in one drachm of water, giving it every hour, night and day. In his last two cases he applied the medicine with a common hand atomizer, and was agreeably surprised at the rapidity with which the exudation disappeared under this treatment. His formula for inhalation is the following :

R.—Hydrarg. chlorid. corrosiv.	gr. ij
Glycerina.	5 j.
Aque rosae.	5 vij.

M. Sig.—To be used with atomizer for three to five minutes every half-hour.

PAPER TOWELS FOR SURGICAL PURPOSES.—In the Surgical Dispensary, Dr. Roberts has been using, with much satisfaction, Japanese paper handkerchiefs for drying wounds. Sponges are so seldom, and with such difficulty, perfectly cleansed after being once used, that they are never employed in the clinic. Ordinary cotton or linen towels are much preferable to sponges, which, if dirty, are liable to introduce septic material into wounds. The paper towels, however, answer the same purpose as cotton ones, and are so cheap that they can be thrown away after being used. They cost from six dollars to seven dollars and fifty cents a thousand. The cost of washing a large number of ordinary towels is thus avoided. The paper towels are scarcely suitable for drying hands, after washing, unless several towels are used at once, because the large amount of moisture on the hands soon saturates a single towel. For removing blood from wounds, a paper towel is crumpled up into a sort of ball, and then used as a sponge. Such balls absorb blood rapidly. The crude ornamental pictures, in color, on the towels, are of no advantage, nor are they, as far as known, any objection.—*Polyclinic*.

LOCAL TREATMENT OF DIPHTHERIA.—S. Kerach (*Deutsche med. Wochensch.*) records the results of his treatment of 102 cases by *iodoform*, and asserts that this is infinitely the best local treatment for diphtheritic patches. He used the following solution, painted on six times daily : *iodoform* 2.5 grammes ; *ether*, 25 grammes ; *balsam of tolu*, 5 grammes.

URETHRAGRAPH.—Dr. George Herschell, in the *Lancet*, (June, 1883, page 943,) describes a new instrument which he calls the urethraph, and by which it is possible to obtain, in the simple act of withdrawing it from the urethra, a graphic representation of the whole length of the canal, in the form of two lines more or less parallel, traced upon a strip of smoked paper. A woodcut is given of the instrument, with a detailed description of how it is to be used. Messrs. Weiss & Sons are the makers.

L' Union Médicale tells of a woman who died at the age of eighty-four, and in whose abdomen was found a perfect fetus at full term, which had remained there fifty-six years. It was in a partially petrified cyst.

THE EFFECT OF PRESERVATIVES ON THE DIGESTIBILITY OF MEATS.—In a paper on the sanitary control of the food-supply, Dr. William K. Newton refers to the influence exerted by "preservatives" on the digestibility of meat. Of these he has examined *salicylic acid*, *the alkaline carbonates*, *potassium nitrate*, *borax* and *boric acid*. Many fanciful names are given to the compounds, and each is claimed to be positively harmless. Their use should be discontinued by sanitarians, for the mere fact that a certain chemical combination will check fermentation outside of the body, leads us to believe that digestion will be impaired or impeded by its use. To demonstrate this, Dr. Newton has treated milk with a preservative, and then attempted artificial digestion. Digestion was proved to be interfered with or checked altogether.—*Med. News.*

DIABETIC PNEUMATURIA.—A very curious case of this affection, observed by Dr. Guiard, is summed up in the *Journal de Médecine et de Chir. Pratiques* for 1883, art. 12361. The chief symptom was the occasional escape of odorless gases through the urethra after micturition. There was no sign of a communication between the intestine and bladder, but the urine was acid, and contained sugar. The patient having been repeatedly catheterized before the apparition of the pneumaturia, it seems probable that an acid fermentation of the diabetic urine had been set up, in consequence of the introduction of some germ-laden air.—*British American Journal.*

MISCELLANY.

—A homeopathic hospital has lately been established in Washington, D. C.

—Bees, taken to Florida, become lazy, and make only as much honey as they need from day to day.

—Dr. M. Jean Baptiste Dumas, the eminent chemist, died recently in Paris at the age of eighty-four.

—Arsenite of bromine has been employed with remarkable success in the treatment of diabetes mellitus.

—It is said that less than seven per cent. of the medical students at the London University succeed in graduating.

—The twentieth annual session of the Homeopathic Medical Society of Ohio will be held in Cleveland, May 13 and 14.

—Politzer treats aural polypi by instilling alcohol several times daily. It must be warm, and shrinking occurs in a few weeks.

—Gov. Knott has appointed our esteemed friend, Dr. W. L. Breyfogle, a member of the Board of Health of the State of Kentucky.

—The London *Lancet* gives a list of seven English medical men who have passed the age of 90, and of fourteen who are beyond 86.

—Virchow does not believe in the modern doctrine of tuberculosis. He does not think that bacillus has any causal relation to the disease.

—In the *Am. Jour. Med. Sci.* (January, 1884), Dr. C. E. Weber reports a case of elephantiasis arabum cured by a ligation of the femoral artery.

—Dr. Strong, Chief of Staff of the Ward's Island Hospital, reports 873 patients treated during the month of March, with a death rate of 3.44 per cent.

—Boericke and Tafel have disposed of their establishment in New Orleans to Mr. Engelbach, who has been connected with the business for the past fifteen years.

—Where no special cause appears for frequent micturition, this trouble is best treated by passing a weak galvanic current from the lumbar region to the region of the bladder.

—Dr. Ballard reports, in the *British Medical Journal*, the case of a girl, 16½ years of age, the duration of whose pregnancy (the result of a single intercourse) was 306 days.

—Dr. B. W. Richardson, of London, enjoys the distinction of being the editor, publisher of, and the only contributor to, a new quarterly medical journal entitled the *Asclepiad.*

—Twenty per cent. of funeral receipts are offered by London undertakers to London physicians who give them or secure them an order. They have imitated the retail druggists.

—According to a recent decision, in this State, the law is void which compels medical graduates from other States to have their diplomas countersigned by some medical college in New York.

—In a recent suit in Glasgow of a tenement against his landlord for damages arising from defective drainage, the Judge made an order in favor of the plaintiff for payment of the medical expenses incurred.

—Our friends in Pittsburg, Pa., are working like beavers for their new and elegant hospital, and there is every prospect that the association will soon be out of debt, with property which has cost over \$200,000.

—The *Gazette Médicale de l'Algérie* calls attention to a great number of facts which appear to show that cider-drinkers are not troubled with stone, and that patients having this affection are either cured or greatly relieved by that beverage.

—Dr. A. J. Bond, Resident Physician, reports fifty-eight patients treated at the Albany City Homeopathic Hospital, for the quarter ending with March last, with 288 prescriptions made in the dispensary and thirteen surgical cases attended.

—The two Homeopathic colleges in Chicago have united forces, and hereafter there will be but one, for which all concerned are to be congratulated. We wish the consolidation might go further, and include the whole West and Northwest!

—A project is on foot, in London, for the offering of a prize, or prizes, for a cheap and palatable non-intoxicating beverage, under the auspices of a committee comprising the Earl of Litchfield, Viscountess Ossington, and other prominent people.

—The Minnesota Institute will hold its eighteenth annual session at Minneapolis, May 20th and 21st next. The programme is full, and offers a variety of interesting papers for discussion, which should make the occasion worth a large attendance.

—A Maternity, provided with home comforts, and in quiet surroundings, designed for the reception of paying patients from all parts of the country, has been opened in Chicago, and the medical side of it placed under the direction of Prof. Sheldon Leavitt. There has long been a demand for an institution of this kind, wholly respectable, and under able management, and we have no doubt that it will be kept full. The address is: The Maternity, 3608 Vernon Avenue, Chicago.

—Dr. S. W. Gross advises against telling a man with a history of any kind of a sore upon his penis, that he does not have syphilis until three months have elapsed from the last connection. The sore may not be a chancre, but a chancre may be incubating.

—*Oil of Turpentine* is achieving quite a reputation in Germany for the cure of diphtheria. Dose to children is a teaspoonful, and to adults a tablespoonful, given morning and evening in warm milk. It is reported to have cured the disease in twenty-four hours.

—The *British Medical Journal* says that it is very easy to find organisms in any disease if the proper methods of preparation be observed, but it is very much more difficult, and far more important, to establish that there is any connection between the organism and the disease.

—*Removals.*—Dr. W. Peterson, to 656 Madison Avenue; Dr. F. F. Moore, to 254 West 57th Street; Dr. H. M. Dearborn, to 152 West 57th Street; Dr. F. H. Boynton, to 30 West 33d Street; Dr. Geo. M. Ockford, to Revere, Mass.; Dr. D. A. Gorton, to 137 Clinton Street, Brooklyn.

—An elderly Englishman was in the habit of buying *quicksilver* and *aqua fortis* in separate packages and mixing them into a sort of ointment for rheumatism. On one occasion, however, they were put into the same bottle by the druggist. They exploded in the purchaser's pocket burning him so that he died.

—Dr. W. Storm White has been appointed Professor of Special Pathology, etc., in the New York Homeopathic Medical College, for which all concerned should be congratulated. Dr. White is an earnest, efficient worker, and we have no doubt will do excellent service in the sphere to which he has been called.

—According to the new British Medical Directory, the whole number of doctors in Great Britain is 25,038. Of these 4,417 are in London, 11,775 on the provincial list, 2,206 in Scotland, 2,430 in Ireland, 1,717 reside abroad, and 2,493 are in the army and navy, the Indian medical service, and the mercantile marine.

—Dr. Gross is quoted in the Philadelphia *Clinical Record* as saying, that if the brain is penetrated by a ball, the rule to let it alone is an exceedingly bad one; investigation has shown that the brain can be handled to a considerable extent with impunity, and there is a great future for operations within the cranial cavity.

—The American Medical Association will hold its annual meeting in Washington, May 6, 7 and 8, 1884. At the session of Practical Medicine interesting discussions may be expected on "Epilepsy," "A Clinical Study of the Heart's Sounds," and on "Tuberculosis." Papers have been promised in this department by Dr. Bartholow and many other prominent writers and teachers.

—Dr. Gibbons, in the *Pacific Medical and Surgical Journal*, cites a case of hypochondria in which a farmer imagined his nose to be a bundle of hay. He took great care not to go near a horse or cow lest his hay nose should be destroyed. Men are more likely than women, says the Doctor, to have hypochondria, though women have hysteria oftener than men. The diseases are closely allied in their origin and nature.

—Prof. Clelland, of Glasgow University, said, in a recent lecture on terminal forms of life, that man was "a terminus"; anatomical evidence showed he had reached the limit of development in vertebrate life. Hence it was in the last degree

improbable that in the future there would be a progression in the construction of the human body that would give birth to greater intelligence than was possessed by the sages of antiquity.

—Dr Dudgeon, of London, recalls the fact—apropos of Koch's investigations into the nature of the cholera germ—that Hahnemann in 1831 suggested that the contagious matter of cholera consisted of "excessively minute invisible living creatures," and accordingly advised the free use of camphor, which he held to be a potent cholera bacillicide—to the efficacy of which treatment, adds Dr. Dudgeon, the statistics of every epidemic in Europe testify.

—The next meeting of the Association of American Medical Editors will be held in Washington, May 5, at eight o'clock P. M. The annual address will be delivered by President Leartus Conner, M.D., on "The American Medical Journal of the Future, as Indicated by the History of American Medical Journals in the Past." Dr. N. S. Davis will open the discussion on "How far can Legislation Aid in Elevating the Standard of Medical Education in this Country?"

—*The Code in Dakota.*—Dr. Watson, of Sioux Falls, gives his opinion of the code in the *Medical Age*. He says: "To see the beauties of this instrument, in the organization of medical societies governed by it, one must live on the frontier prairies and see the class of men who organize these societies. Abortionists, drunkards, blackguards, and disreputable characters of all kinds—these are the loudest in their talk of the code. It matters not that none of them have ever read it, nor have the faintest idea of what it means. It is sufficient for them that it is the correct thing to land, and swear by it."

—Ernest Turner, in "Hints to House hunters and Householders," says: An inhabited house is a sort of gigantic cupping-glass, and the heat-rarified atmosphere of its rooms is continually replenished from the air-stores of the soil, forced up, syphon-wise, by the excess of weight in the corresponding column of cold air outside. *Hence, to live on a poisonous soil is to breathe poisonous air.* * * Soil, naturally wholesome, may be made poisonous by ourselves, and is very conscientious in returning the poison we have committed to its keeping. Cesspools and drains are the principal agent in this procedure.

—Professor Huxley, at the late opening of the Medical School, at the London Hospital, said: "A large number of people seem to be of the opinion that the state is bound to take care of the general public, and see that it is protected against incompetent persons and quacks. I do not take this view. I think it is much more wholesome for the public to take care of itself in this as in other matters."

He thought the only occasion for governmental interference in the affairs of the medical profession, was to be found in compelling proper death certificates, and proper qualifications for official positions.

—In support of a resolution passed at a popular meeting in Bradford, Eng., that home lessons should not be compulsory on children under ten years, Dr. Rabagliati stated that in the last decade deaths from hydrocephalus at the school ages had increased twenty per cent. This, he believed, must in part be attributed to educational over-pressure. He also pointed out that cephalitis had increased in the same period by nearly fifty per cent. While he did not think this could be attributed to the same cause, he begged the School Board to take care lest, by forced study, an additional impetus might be given to the causes which were powerfully increasing the mortality from nervous disorders.